

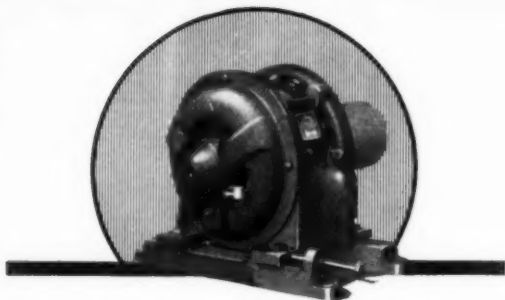
MAY 1925 ~ No 232

Monthly

Distributed Free to Machine Tool  
Users Everywhere in the United States and to  
Dealers in American Machinery Abroad

Published by  
**A.H. HITCHCOCK**  
1220-1236 Cordon Building  
Chicago

FOR INDEXES SEE LAST PAGES



## 8 things about the feet on Type AA Reliance Motors

*They are*——thick.

——solid.

——cast integral with the end flanges.

——ribbed for extra strength.

——cast steel.

——planed accurately.

——jig drilled and seats for bolt heads  
are spot faced.

*Bulletin 5018 gives all the details*

**Reliance Electric & Engineering Co.**

1050 Ivanhoe Road,

Cleveland, Ohio

*Branches:*

BOSTON  
NEW YORK

PHILADELPHIA  
PITTSBURGH

CHICAGO  
DETROIT

CINCINNATI  
BIRMINGHAM, ALA.

*We specialize in motors, sizes 1/2 to 200 h. p. constant and adjustable speed  
D. C.; squirrel cage and slip ring A. C.*

# Type **A.A.** RELIANCE Induction Motors

## HANDBOOK FOR DRILLERS



## The A-B-C of Good Drilling Practice!

Thousands of copies of this booklet are mailed out annually, all over the world, to men and boys interested in knowing the "why" as well as the "how" of twist drills and drilling.

May we send you a copy? It costs you nothing but a postcard and puts you under no obligation.

*Just ask for the "Handbook for Drillers."*

The **CLEVELAND** **TWIST DRILL**  
**CLEVELAND** **COMPANY**  
**CLEVELAND** **NEW YORK CHICAGO LONDON**

TRADE MARK REG. U. S. PAT. OFF. AND FOREIGN COUNTRIES

**Manufacturers, also, of**

Carbon and High Speed Drills for every purpose; "Mezzo" Super-Carbon Drills; Hand, Jobbers' and Shell Reamers; "Peerless" High Speed Reamers; "Paradox" Adjustable Reamers; "Quick-Set" Reamers; Chucking Reamers for Turret Lathes; Counterbores; Countersinks; Sockets; End Mills; and the "Ezy-Out" Screw Extractors.

# CLE♦FORGE

TRADE MARK REG. U.S. PAT. OFF.

# AM FORGE

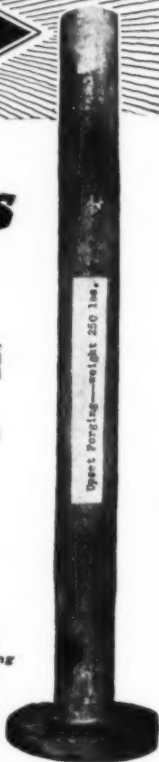
## Upset Forgings

### Cut Costs Tremendously

1. **By Reducing Weights.** As an example the 250 lb. flanged shaft here illustrated replaced a 316 lb. hammered shaft. Customer saved 66,000 lbs. of steel on 1000 shafts.
2. **By Reducing Machining Time.**
3. **By Eliminating Rejects**—as all AmForged work is flawless and uniform.



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Interesting  
Free Book



AMERICAN FORGE COMPANY, 2631 So. Hoyne Ave.,  
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## Drill Automatically —



Kingsbury Vertical Drilling Machine with No. 82 Universal Fixture

- OPERATOR:**
1. Inserts blank, simultaneously engaging power feed.
  2. Picks up fresh blank.
- MACHINE:**
1. Automatically clamps work.
  2. Drills work under uniform pressure with friction control absolutely with as coarse a feed as the tool will stand.
  3. Unclamps and ejects work.
  4. Stops until operator inserts fresh piece.

This is a machine for short run jobs where production counts

*Write for catalogue of production drillers*

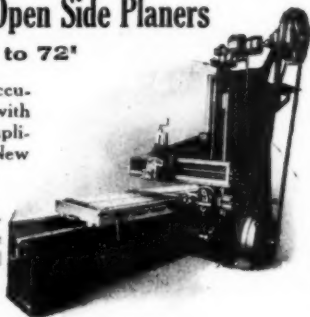
**Kingsbury Manufacturing Co., - Keene, N. H.**

## Cleveland Open Side Planers

Sizes—26' to 72'

Rigidity and Accuracy combined with remarkable Simplicity and all New Features.

Over 1,000 Cleveland Open Side Planers Built and Installed.



*Send for full description*

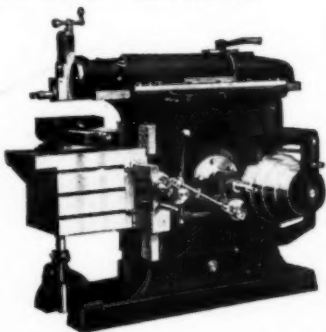
**The Cleveland Planer Co.,** 3148 Superior Ave., N. E.,  
CLEVELAND, OHIO  
*Established in 1900*

## SHAPERS

12", 14", 16"  
Plain Crank,  
16", 20", 25"  
B. G. Crank,  
either Cone  
Driven or  
through Speed  
Box.

Belt Shifter  
Regular Equip-  
ment All Cone  
Driven Shapers.

32" Back Gear-  
ed Crank, Sin-  
gle Pulley  
Drive.



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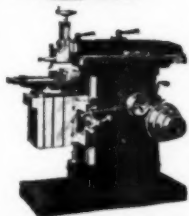
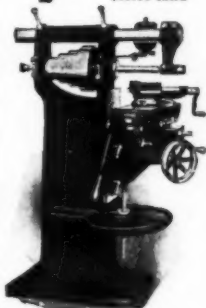
Keen Competition Demands Efficient Machine Tools

# SHAPERS MILLERS LATHES

## STEPTOE



14"x6'—\$450.00  
16"x6'—\$500.00  
Gear Box  
\$85.00 extra



Represent 80 years of accumulated knowledge and skill in the manufacture of high grade *Medium Priced Machine Tools.*

Thousands of shops thruout the world are giving proof of the quality, durability and satisfaction which can be expected of *Steptoe* machines.

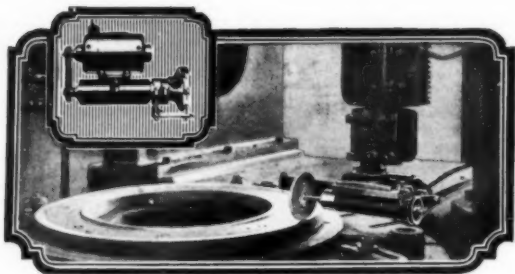
*Steptoe* shapers, lathes and millers are devoid of intricate parts and are practically fool proof.

*Send for copy of catalogue describing and illustrating the entire line.*

## THE JOHN STEPTOE CO.

Stock Yards Station

Cincinnati, Ohio, U. S. A.



## A Hard Job Well Done

**T**HE illustration above shows a Dumore grinder in an unusual set-up on a milling machine, grinding a large ring-die. It is just another indication of the wide range of uses to which these precision tools may be applied. But could any greater tribute to the efficiency and adaptability of Dumore grinders possibly be given? What more convincing proof is needed of their ability to do hard jobs—and do them well?

Perhaps you have no giant ring-die grinding jobs to worry about. But if you make jigs, dies, gages and other hardened tools—simple or intricate—you, like thousands of other users, can employ Dumore grinders to advantage.

Six styles and sizes—with individual speed ranges—provide a grinder with the correct cutting speed for any grinding need. Dynamic balance and smooth operation of Dumore grinder motors eliminate vibration. Ability to operate on alternating or direct current assures constant usage even in plants supplied with two varieties of power current. Portable, they can easily be taken to the job—saving the cost of tearing down expensive set-ups.

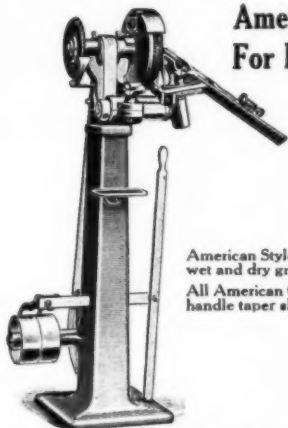
A copy of our new catalog is yours for the asking. So is complete information on Dumore special advantages and applications. Send for this instructive material today—tomorrow you may be too busy!

Wisconsin Electric Co., 43 Sixteenth St., Racine, Wis.

**DUMORE HIGH SPEED GRINDERS**

# La Salle Grinders

**American Style C T A  
For Dry Grinding Only**



Unexcelled as a dry grinder for twist drills. Extra large drill holder has capacity from 1" to 3½".

American Style W T A is arranged for both wet and dry grinding.

All American Grinders are now equipped to handle taper shank drills.

## **No. 1 Plain and Surface Grinder**

(Micrometer Adjustment)

Grinding wheels.....	8"x1"
Between wheels.....	15"
Height to spindle center.....	40"
Table surface.....	8"x14"

Has vertical travel of 12" on guides, ¾" by micrometer, and may be raised to within 2" of spindle center. Wheel grinds to center of a surface 9" wide.



*Let us know your grinding requirements*

## **LaSalle Tool Company**

LaSalle, Illinois, U. S. A.

# LeBLOND Patent Belt Shifter



A necessary safety factor and a valuable production increasing feature. It is applicable to any cone pulley driven machine tool.

*Write for our descriptive booklet and prices*

**THE R. K. LeBLOND MACHINE  
TOOL COMPANY**

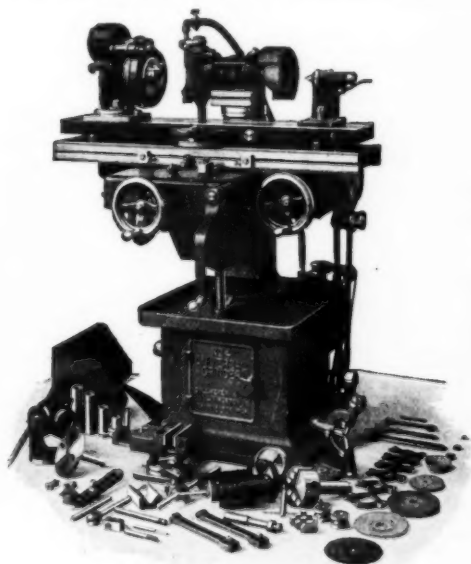
CINCINNATI

OHIO

# Grand Rapids Universal Grinder

*MOTOR DRIVEN*

**With All Overhead Works Eliminated**



**GRAND RAPIDS No. 3 & No. 4 Universal Grinders**  
are furnished either hand feed or power feed,  
wet or dry, motor drive or belt drive.

CIRCULAR ON REQUEST

**Gallmeyer & Livingston Co.**

**342 Straight Avenue, S. W.**

**GRAND RAPIDS, MICH.**

# AUTO REPAIR SHOPS

**The Whitney Cylinder Grinder Will Make Money  
For You Regrinding Automobile Cylinders**

The grinding wheel travels in a true circle and grinds off only enough to make a hole that is round and straight. This machine does the work right and does it quick. That's why you can do a profitable business with a Whitney.

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Incorporated

**WINCHENDON, MASS., U. S. A.**

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MARSHALL & HUSCHART MCHY. CO., 17 So. Jefferson St., Chicago

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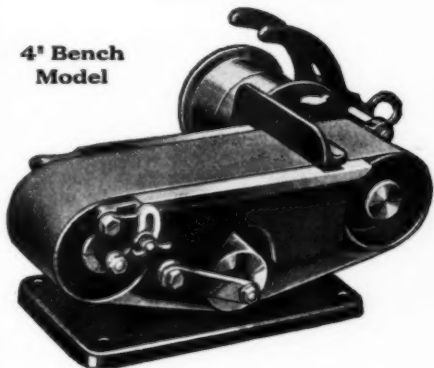




# **PEERLESS SURFACING MACHINES**

*for*  
**Grinding and Finishing  
Flat Work**

**4" Bench  
Model**



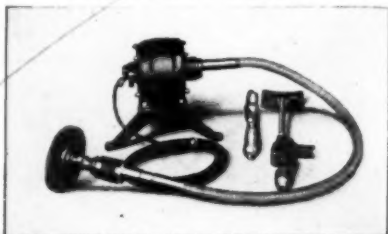
**Larger Machines in Both  
Horizontal and Vertical Styles**

*SEND FOR FOLDER*

**PEERLESS SURFACING MACHINE CO., Inc.**  
**TROY, N. Y.**

## The Whirlwind Buffer and Grinder

Will cut the cost on any unhandy  
grinding or polishing job

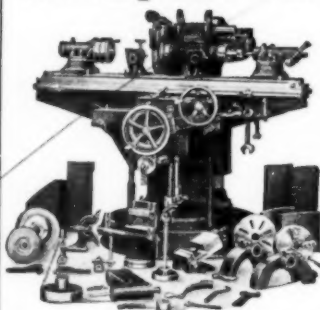


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**Stow Flexible Shaft Co.,** 3454 Ludlow St.,  
Philadelphia, Pa.

*The Best Since 1876*

## Unsurpassed Universal



The Thompson  
10"x36" Grinder  
does high-grade

**Plain,  
Surface,  
Edge,  
Die,  
Cutter**

*and*  
**Internal  
Grinding**

—and is good  
at all of them.

*Write for Illustrated  
Bulletin today*

**Manufactured By**

**THE THOMPSON GRINDER CO., - Springfield, Ohio**



**Type C-1 Tool**

**More  
Economical  
than a  
Diamond**

You will produce work at  
infinitely less expense by  
using the

## **"Precision" Roughing and Semi-Finishing Wheel Truing Tool**

Not a substitute for the diamond, but built on  
an entirely different principle, which is an im-  
provement over the diamond in that it pro-  
duces work equal or better than that of the  
diamond, and at a greatly reduced cost.

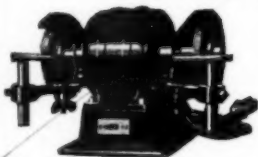
**It will pay you to put Precision  
Wheel Truing Tools to a test.**

*Ask for descriptive booklet*

**The Precision Truing Machine & Tool Co.**  
**CINCINNATI, OHIO**

## ***Don't Be Robbed—***

**By Dull Tools**



**BODINE**  
Portable Electric  
**TOOL GRINDERS**

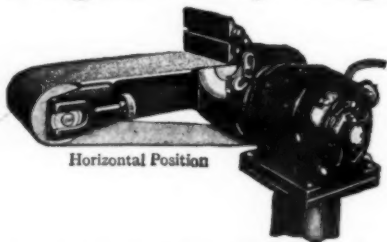
*Make it easy to  
keep tools sharp*

BODINE-BUILT Grinders are equipped with Norma precision ball bearings, heavy wheel guards, tool rests quickly adjustable to any position, and everything necessary to accuracy, steady performance and ease of handling. A "Bodine" in every department insures sharpest tools throughout the entire plant.

*Write for a copy of "Eight Outstanding Advantages"*

**The Bodine Electric Company**  
2256 West Ohio St., Chicago, Ill.

## **Straight Sharp Edges**



**Horizontal Position**

Quickly produced on PORTER-CABLE Belt Grinder. Operates in either a horizontal or vertical position from any electrical circuit. **Write for Details.**

**PORTER-CABLE**

**Machine Company**  
Syracuse, N. Y.



*Like the busy little bee,  
it isn't big, but wonderfully efficient*

7 in.  
Shaper  
Stroke



3½ in.  
Slotter  
Stroke

## The Rhodes Shaper and Slotter

Take a large machine of the higher grade, make the parts smaller, put them together—all with the greatest care and skill—and you have the "RHODES."

Advantages—Much lower first cost, and greater ease of handling on light work. Disadvantages—None, on work within its capacity.

It's the machine *par excellence* for dies, tools, and all small shaping and slotting.

*Ask your dealer or write for  
CATALOG H22*

**The Rhodes Mfg. Company**  
948 Park Road,                      Hartford, Conn.

SHAPERS—RHODES—SLOTTERS



**To any one writing us —**

on their firm stationery and asking for  
our catalog of our complete line of

## **Grinding Wheel Dressers and Cutters**

we will send without charge, a  
handsome bronze letter opener.

**Desmond-Stephan Mfg. Co.**  
**Urbana, Ohio**

**Specialists in Dressers and Cutters**

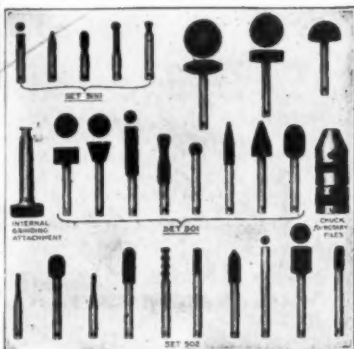


### **Strand Rotary Files**

Used with Strand  
Flexible Shaft  
Machines. Are  
giving excellent  
service.

**Write for Catalog**  
**N. A. Strand & Co.**  
**5001 No. Lincoln St.**  
**CHICAGO**

### **HIGH SPEED HAND CUT ROTARY FILES**



# TRY to Match its Value!

The "Artisan" Lathe, complete with standard equipment costs \$170.00 f.o.b. factory

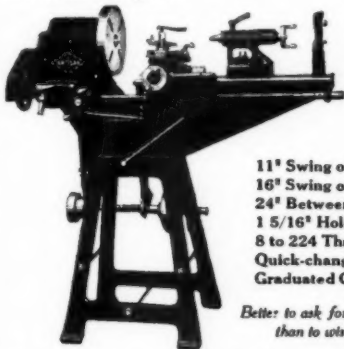
## We Guarantee:

That the accuracy, workmanship, material and finish will far exceed your best expectations of a machine priced so moderately.

## Further:

That this Lathe will handle a greater range of work and take a heavier cut than any standard 11"x36" engine lathe.

Since June of 1922, more than 450 of these machines have conclusively proved that it is folly to invest in expensive equipment for any work which they can handle, and, that it is not economy to purchase cheap antiquated used machinery, because this Modern and Thoroughly Dependable Lathe will turn out the work at less cost per piece.



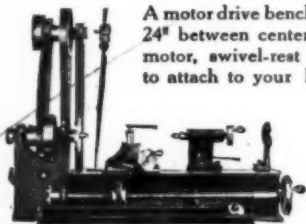
11" Swing over Bed  
16" Swing over Gap  
24" Between Centers  
1 5/16" Hole thru Spindle  
8 to 224 Thread Range  
Quick-change Gears  
Graduated Compound

*Better to ask for full particulars  
than to wish you had!*

**Artisan Mfg. Co.** Station "N"  
Cincinnati, Ohio

## Just-Rite Lathes

Made in Sizes from 10-in. to 20-in.



A motor drive bench lathe, 10" swing, 24" between centers, complete with motor, swivel-rest and pan, ready to attach to your light socket, \$98.

**JUST-RITE**  
for turning,  
boring, mill-  
ing and drill-  
ing (not screw  
cutting).

Order one by express. Weight, 230 lbs.

**A. V. Carroll Machine Tool Co.,** Norwood,  
Cincinnati, O.

*Just write us the make and swing of  
your Lathe and we'll do the rest*



**Hardinge Standardized  
Draw-in Chucks or Collets  
For All Makes of Lathes**

Also Collets for Bench Type Milling Machines and  
for Screw Machines. Prompt shipment from stock.  
Write for Price List and keep it for reference. And  
what do you need now?

**HARDINGE BROTHERS, Inc.,** 1770 Berkeau Av. Chicago, Ill.



## Pedrick Lathe Boring Bars



There are many times when you could profitably use one of your lathes for boring—if you only had the proper appliances at hand.

We can equip you for such work with one of our Lathe Boring Bars. They are made in diameters from 2½" to 6" and various lengths, with a large assortment of cutterheads to meet miscellaneous requirements.

The lathe provides the power, and each bar has a two-change constant feed, hand-controlled or automatic. The bar is rigidly held and is easily taken down and reset without changing the alignment.

Put your boring problems up to us. We have all kinds of new boring machines, from our Standard Portable Cylinder Boring Bar to our new Floor Boring Machines.

### **Pedrick Tool & Machine Co.**

3644 N. Lawrence St., Philadelphia, Pa.

Builders of Portable Cylinder Boring Bars, Crank Pin Turners,  
Portable Millers, Pipe Benders, etc.



**\$765**

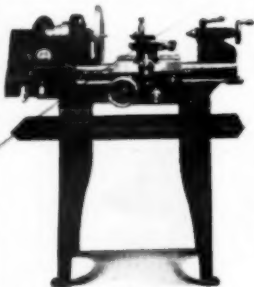
15"x6"  
Geared  
Head  
Lathe,  
Single  
Friction  
Pulley  
Drive,  
without  
Motor.

*Write for details*  
SEE OUR SHOW

**Gold Seal Lathes**

**The Sebastian Lathe Company**  
1000 Culvert St., Cincinnati, O., U. S. A.

## Monarch Jr. Lathes



are the smallest members of the Monarch lathe family. Yet they are the "biggest little lathes" built.

The Monarch line of lathes includes all sizes and types from the little 9-inch Junior lathe to the big, massive 30-in. lathe. In this line there is a lathe to fill your requirements at the price you want to pay.

*Send for Catalog*

**The Monarch Machine Tool Co.**  
206 Oak Street, Sidney, Ohio



**If you ever ran a lathe it has surely happened to you. It continues to happen daily in almost all shops.**

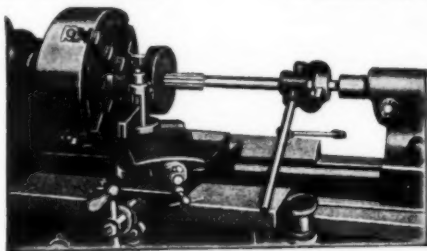
Until the Nicholson Reamer Holder was invented there was no other method by which a mechanic could keep his reamer from jumping in, or prevent it from reaming a tapered hole. This Holder can also be used instead of a chuck for drills and as a hold back in a lathe. It has many uses and saves double its cost in a short time. No. 1 size takes straight shank reamers and drills up to 1" dia., and No. 2 takes up to 2" in dia.

Send us sketch of socket or number of Morse taper of lathe you would like to try one on, and we will send it on trial. If you desire further information and circular, write us.

**W. H. Nicholson & Company**

117 Oregon Street,

Wilkes-Barre, Pa.



## E-Z THREAD DIAL E-Z

ORDER BLANK



Kind of thread on lead screw

Square      Acme      V

☐      ☐      ☐

Right Hand.....☐

Left Hand.....☐

Number of threads...☐

Give distance from top of carriage to center of lead screw  
(                      )

E-Z to Attach      E-Z to Use

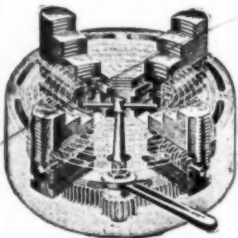
List Price, \$14.00

*Sent on 30 days' trial*

**JAMES M. COLVEN**

No stopping or reversing lathe.  
For all sizes lathes. Saves backing belt. 20 Wolfe Street, Yonkers, N. Y.

## Two Chucks Combined In One

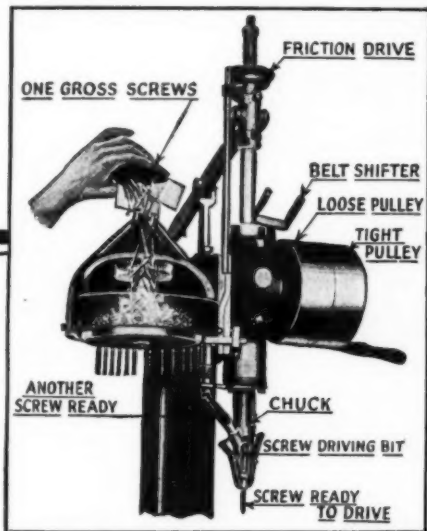


When you buy a Westcott Spur Geared Combination Chuck, you are really getting two chucks in one, for the jaws of a Westcott Combination Chuck move simultaneously or independently just as you wish. No need to have two types of chucks. Get a Westcott Combination Chuck and save time and money.

*Our free catalog gives complete information and prices. Write for it.*

**WESTCOTT CHUCK CO.** Walnut St., ONEIDA, N. Y.

# It Magazines the Screws



Showing the Magazine Feed of the Reynolds Automatic

**SCREW DRIVING** with the Reynolds Automatic means that the operator simply dumps a gross or more of screws into the hopper, uses both hands to move work into place, presses a foot lever, and z-i-p, it's done. Result, 8,000 to 10,000 screws per day easily driven with mechanical perfection.

*Let us know* the dimensions over all of your work, with length and gauge of screws used, and we'll post you on a big saving. Some large users say their Reynolds Machines paid for themselves in four months.

**The Reynolds Machine Company**  
Dept. H. H., Massillon, Ohio



## Armstrong Tools



### **Tool Holders**

Over 100 shapes and sizes for every operation on Lathe, Planer, Shaper, Slotter, etc. — the only complete line. Better have our Tool Holder Catalog.

### **Ratchet Drills**

For all purposes—"Packer," for rough service; "Standard," for general use; "Weston," extra heavy; "Universal" and "Short Ratchet." Ask for Ratchet Drill Catalog.

### **Drop Forged Wrenches**

All kinds. All sizes. Highest quality. Write for Catalog of Steel Wrenches.

### **Clamps and Dogs**

Drop forged. All shapes and sizes. Highest quality. Alloy steel screws. Separate Catalog.

## **Armstrong Bros. Tool Co.**

"THE TOOL HOLDER PEOPLE"

308 N. Francisco Ave., Chicago

## **NOTICE—**

*To USERS Of*

## **"Advance" Lathes**

**Formerly made at Milwaukee, Wis.**

We have purchased the entire outfit for building these Lathes, and are prepared to give service on repair parts, etc.

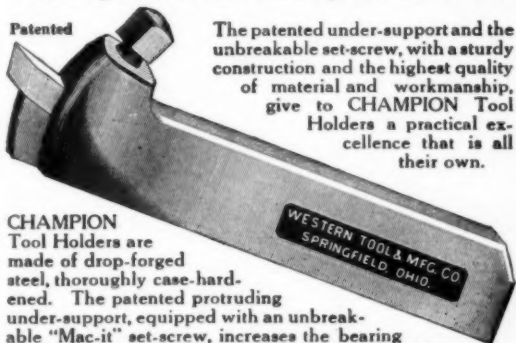
**The Carroll & Jamieson Machine Tool Co.**

**Batavia, Ohio**

# Champion Tool Holders

Turning Tools — Boring Tools — Planer Tools  
Cutting-Off Tools—Threading Tools  
Grooving Tools and the Champion Drill Holder

Patented



The patented under-support and the unbreakable set-screw, with a sturdy construction and the highest quality of material and workmanship, give to CHAMPION Tool Holders a practical excellence that is all their own.

**CHAMPION**  
Tool Holders are made of drop-forged steel, thoroughly case-hardened. The patented protruding under-support, equipped with an unbreakable "Mac-it" set-screw, increases the bearing for the cutter 40 to 70 per cent, with a corresponding increase in cutter economy. It also absorbs the heat from the cutter and permits heavier cuts, with less breakage.

Patented

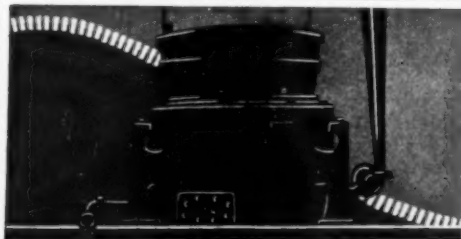


**Champion Boring Tool**

This tool is indispensable for inside threading and boring. Takes any length of cutter, which may be used down to short lengths. Cutters, drills, reamers, taps and many other tools can be used in this Holder.

*Write for new Catalog and Price List*

**The Western Tool & Mfg. Co.**  
Springfield, Ohio



**Save  
Cutting  
Oil!**

6 to 15 gallons per load—  
three or four loads per  
hour. Write for catalog.

**Tolhurst Machine Works**  
Troy, N. Y.



Style "WC"



Style "O"



The Hinge



Style "G"



Style "A"

**Gits Gravity and Wire Wick  
Feed Oilers**

**Gravity Feed**—flushes  
the bearing.

**Wire Wick Feed**—gives  
desired prolonged feed.

**Wire Wick**—replaces  
waste or felt.

Made in Standard sizes.



Style "L"

**Write for Catalog  
No. 20**

Showing 255 full size  
illustrations with detail  
dimensions.

**GITS OIL CUPS**

Oil cups for every lubricating  
need. State style and size in  
which you are interested, and we  
will send free samples and catalog.



Style "U"



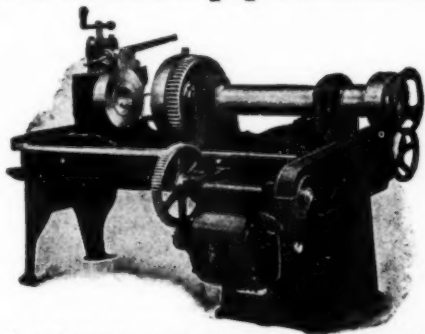
Style "T"

**GITS BROS. MFG. CO**

1940 SO. KILBOURN AVE., CHICAGO



# Speed—plus accuracy guarantees lowest costs with B. & K. pipe machines



No. 3 Peerless Improved. Motor Drive. Cap.  $\frac{1}{4}$ " to 3".

JUST ONE GOOD FEATURE doesn't make a good pipe-threading machine—there must be a number of them, and you'll find plenty in B. & Ks. We've been building them for over 40 years, and you will be agreeably surprised at both quantity and quality of output.

THE MANY GOOD FEATURES embodied in B. & Ks. assure you of rock-bottom costs at all times because they save labor, time, and money. Equally good for odd jobs or big runs. The 17 styles and sizes thread and cut pipe from  $\frac{1}{4}$  to 18 inches in diameter. Writing us about your needs incurs no obligation whatever.

*Communicate with us or our agents, at nearest address*

## **Bignall & Keeler Machine Works** EDWARDSVILLE, ILL.

*Sales Agents: Manning, Maxwell & Moore, New York, N. Y.*

CHICAGO  
BUFFALO  
BOSTON  
DETROIT

SYRACUSE  
CLEVELAND  
PITTSBURGH  
PHILADELPHIA

ST. LOUIS  
ATLANTA  
SEATTLE  
SAN FRANCISCO

# Steel Spacing Washers—

Made of a good grade of Cold Rolled Strip Steel, also known as Shim Steel



Stock sizes for arbors of following diameters:  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1,  $1\frac{1}{8}$ ,  $1\frac{1}{4}$ ,  $1\frac{3}{8}$ ,  $1\frac{1}{2}$ ,  $1\frac{5}{8}$ ,  $1\frac{3}{4}$ ,  $1\frac{7}{8}$ , 2,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$  and 4 in. and larger.

Stock thicknesses: .002, .003, .004, .005, .006, .007, .008, .010, .012, .015, .020, .025, .032, .047, .063, .093 and .125 inch.

Other thicknesses up to 3.000" made to order, with keyways if so ordered.

Ask us to send samples; you'll like them

**Detroit Stamping Company**  
3443 West Fort St., Detroit, Mich.

## Save Time Setting Gang Milling Cutters

Eliminate  
Thin  
Washers



Hardened  
and  
Ground

PATENTED

"Wear-Ever" Adjustable Spacing Collars permit setting cutters to the thousandth part of an inch without removing from the arbor.

Stock sizes for  $\frac{3}{4}$ " to  $2\frac{1}{2}$ " arbors, sent on approval  
They are adjustable in 12 steps of  $2/1000$  inches

**SCULLY-JONES & CO. TOOL DIVISION**  
13th and Robey Streets CHICAGO, ILL.

# Saves Your Buying

---

## Many New Tools

---



**Genesee Adjustable Hollow Mill**—has adjustable, replaceable blades, which can be replaced at small cost, and this saves you buying many a new tool. They are ideal for finishing forgings, castings, etc. You can adjust them to the 1000th of an inch in a few minutes, and are designed to utilize machines to their full capacity.

Genesees can be fitted with drills and reamers, have formed blades, etc. Blades can be ground any angle to point work and turn short tapers. They cut up to 15" a minute in steel, are stronger than solid tools, and cannot change in size.

*Seven sizes cover work from 1/8" to 2". The Genesee is now made in six different styles, from the heavy roughing Style "B" to the accurate finishing Style "F." We also make Style "N" Mills for all Brown & Sharpe Automatics. Write us about your needs—our tools reduce costs.*

**Genesee Manufacturing Co., Inc.**

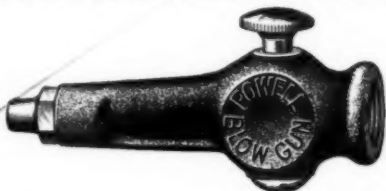
Established 1908

**Rochester, N. Y., U. S. A.**

*Manufacturers of Genesee Rapid Production Tools*

## POWELL BLOW GUN

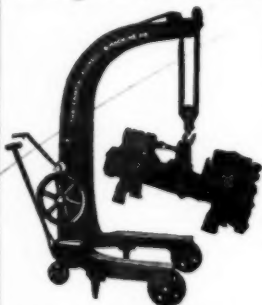
Designed to dispense air with utmost economy.  
Used for cleaning machines, machine tools and work benches.



Made with different tips for special requirements.  
*Circular on request.*

**The Wm. Powell Co.**  
2525 Spring Grove Ave., Cincinnati, O.

## A Big CANTON Carries Three Tons



### The "CanTon" Portable Crane, Hoist and Truck

makes it easy for one man to handle machinery and castings which ordinarily require the combined efforts of 6 to 10 men. 'Nuff sed.

The big size and also the smaller huskies pay for themselves in a comparatively short time. Just drop us a line and

*Ask for Booklet E-8*

**CANTON FOUNDRY & MCHE. CO., Canton, Ohio**

New York Office: 203 East 15th Street, Second Floor

# FORD TRIBLOC



## "Safety First" Hoists

By resisting the surge and shock of hoisting service in the shop—the strength, safety and smooth action of Ford Triblocs are saving man power and labor hours, and speeding human effort.

Workmen appreciate the advantages of Ford Triblocs—management profits through their use.

**Capacities  $\frac{1}{4}$  to 20 tons**

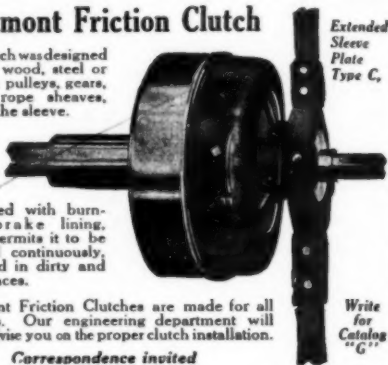
*Write for Catalog 6-B*

**FORD CHAIN BLOCK COMPANY**  
2nd & Diamond Sts., Philadelphia, Pa.

2264-D

## Edgemont Friction Clutch

This clutch was designed to drive wood, steel or cast iron pulleys, gears, drums, rope sheaves, etc., on the sleeve.



*Extended  
Sleeve  
Plate  
Type C,*

It is lined with burn-proof brake lining, which permits it to be operated continuously, and used in dirty and dusty places.

Edgemont Friction Clutches are made for all purposes. Our engineering department will gladly advise you on the proper clutch installation.

*Correspondence invited*

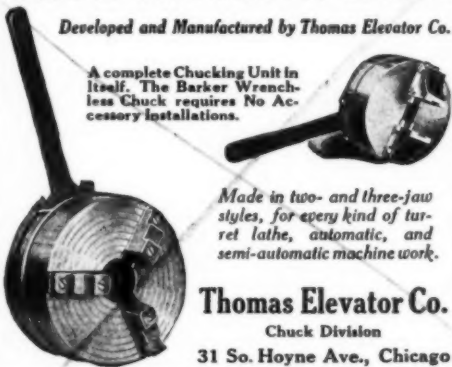
*Write  
for  
Catalog  
"G"*

**Edgemont Machine Co., Inc., DAYTON, OHIO**

## Barker Wrenchless Chuck

*Developed and Manufactured by Thomas Elevator Co.*

A complete Chucking Unit in itself. The Barker Wrenchless Chuck requires No Accessory Installations.



*Made in two- and three-jaw styles, for every kind of turret lathe, automatic, and semi-automatic machine work.*

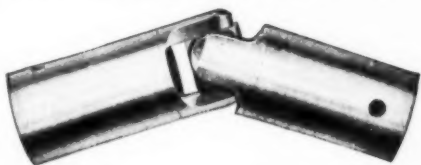
**Thomas Elevator Co.**

**Chuck Division**

**31 So. Hoyne Ave., Chicago**

# NATCo

## Universal Joints



### Of Proven Service

Made from Alloy Steel.

All working surfaces hardened and ground to insure maximum life.

Interchangeable manufacture permits repair parts replacement to overcome natural wear. Complete replacement is seldom necessary.

Manufactured in the following sizes—  
 $\frac{5}{8}$ "  $\frac{3}{4}$ " 1"  $1\frac{1}{4}$ "  $1\frac{1}{2}$ " 2"  $2\frac{1}{2}$ " 3"

*Descriptive Bulletin will be  
sent on request.*

**The National Automatic Tool Co.**  
Richmond, Indiana

## Our Hollow Bored Forgings And Steel Shafts

Are RIGHT in both QUALITY and PRICE



**Piston Rods  
Clutch Shafts  
Lathe Spindles**

**Rams  
Steel Pipes  
Etc., Etc.**

*Send along your blueprints with a trial order; we'll both be pleased*

**American Hollow Boring Co.  
Erie, Penna.**

## Vanderbeek Universal Joints



—represent the practical refinements of 25 years experience in manufacturing Universal Joints. All parts are generous sized, fully protected against dirt, and are practically self-oiling. Exceptionally strong, they transmit full power up to 70°.

Vanderbeek Joints are in daily use on thousands of machines.

*Write today for our  
Descriptive Catalog.*

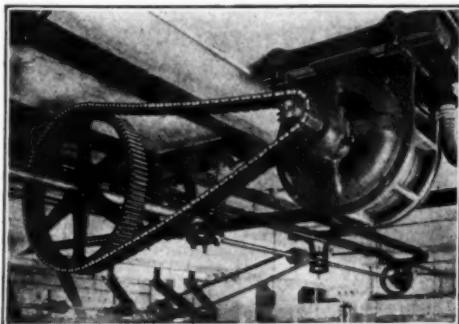
**American Tool Works, Inc.  
Hartford, Conn., U. S. A.**





# **"WHITNEY"**

## **Silent Chain Drives**



**A "WHITNEY SILENT CHAIN DRIVE"**  
can profitably be used on your line shafts.

There is no slippage, no loss of power,  
and no high maintenance costs.

*Let us fit the drive to the job*

### **THE WHITNEY MFG. CO., - HARTFORD, CONN.**

**NEW YORK**  
L. C. Biglow & Co., Inc.  
243 W. 55th St.

**PITTSBURGH**  
Pittsburgh Gear & Mch. Co.  
27th & Smallman Sts.

**CLEVELAND**  
Smith Power Transmission Co.  
1218 Ontario St.

**BOSTON**  
George C. Steil  
727-A Boylston St.

**SYRACUSE, N. Y.**  
George McPherson  
201 Norwood Ave.

**CHICAGO**  
E. H. Huntington  
215 Machinery Hall

**PHILADELPHIA**  
R. J. Howison  
624 Race St.

**DETROIT**  
A. G. Brice  
240 Gen. Motors Bldg.

**SAN FRANCISCO**  
A. H. Coates Co.  
615 Howard St.

**SEATTLE, A. H. Coates Co., 1115 East Union St.**

**Compact—Sensitive—Accurate—Durable**  
**The "ATLAS JUNIOR" INDICATOR**

Reads over a range of 0.055"—at a glance. Dial may be set at zero after adjusting to work. Contact point can be locked in position for inspecting. Keep it in your pocket and use it anywhere. Details?

**PRICE \$7.50**



*Sold by Dealers or Direct*

**WALLACE BROS.**

160 N. Wells St., Dept. B.B. CHICAGO, ILL.

**Model "25"**

In a  
Leather Case  
with  
Universal  
Attachments

**Only  
\$10.**



**FEDERAL  
Dial Indicator**

Adjusts instantly to any desired position on a surface or height gauge; also for checking lathe, miller, grinder, shaper or planer work.

Send for our complete catalog of Dial Indicators, Cylinder Gauges, Comparators, Thickness Gauges, Piston Gauges, Rubber Gauges, Piston Pin Gauges, Fabric Gauges, Paper Gauges, Wire Gauges, Piston Ring Gauges, Thread Lead Gauges.

**Federal Products Corporation**

*On a Surface Gauge* Elbow & Chestnut Sts., Providence, R. I.



How the Cincinnati Gear Co. use their

## ROCKWELL HARDNESS TESTERS

Stevenson Gear, New Process Gear and Manning, Maxwell & Moore also use it, while Gleason Works test cutter blades on it.

We find this Tester a very good proposition for us, as the prime essential in a good scale is hard pivots and bearings. In years gone by these have been tested with a file which was not a satisfactory method. Today, we test all bearing steels with your machine and believe the danger of a soft bearing is entirely eliminated in BUFFALO SCALES.

We prefer the Rockwell to other Testers because it is easier to operate and the dial is much more easily read than the indicators of various kinds used on other machines.

Very truly yours,

BUFFALO SCALE COMPANY INC.

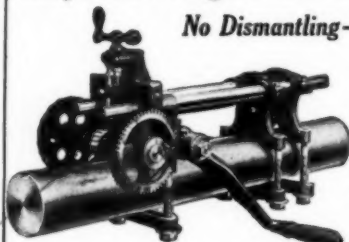
## WILSON-MAEULEN COMPANY INC

*Our men all over the country have demonstration testers*

St. Mary's St. & Concord Ave., New York City

## Keyseats Right On the Spot

*No Dismantling—No Fuss*



**The BURR  
Portable  
Keyseater**

Cuts keyways  
up to 12" long,  
in shafts up to 5"  
diam., anywhere,  
in any position.

Have one on hand for your next emergency—the cost is often saved on a single job. The seven sizes are quick and accurate. Hand or power driven. Over 9,000 in use. *Order yours today!*

**JOHN T. BURR & SON**

422 Kent Ave., Brooklyn, N. Y.

## A SPINNER THIS KEYSEATING Miller

takes only a half minute to mill  
a keyseat  $\frac{1}{4}$ " wide,  $\frac{1}{8}$ " deep, 2"  
long in a cast iron collar. Can  
you beat it?

*The asking will bring  
Catalog O*

**National Machine Tool Co.**

2268 Spring Grove Ave.,

Cincinnati, O.





## All Types Keys



### CRANKSHAFTS

Forged or Finished

### CONNECTING RODS

Forged or Finished

### MACHINE KEYS

Quick delivery—ready to drive

### WOODRUFF KEYS

Ship from Stock

### TAPER PINS

Ship from Stock

*Send us your inquiries*

**Wm. Leard Co.**

6th Ave.

New Brighton, Pa.

# For Sure Balance--

an absolutely level and solid "Way" is necessary

## Bowsher "Balancing Ways"



are brought to an absolute *level* in ten seconds. No revolving parts.

The edges or "knives" upon which the work is tested are ground *true*, and are mounted upon the planed "ways" of a heavy bed or frame.

Standards adjustable to suit length of arbor.

Three sizes for floor—one for bench use

Send for Catalog "F"

The N. P. Bowsher Co., South Bend, Ind.

## Anderson Improved Balancing Ways

Ever-Ready—Sensitive—Reliable



They need no adjusting. The rotating discs made of chilled iron run in specially designed ball bearings and are exceptionally sensitive. You will like 'em.

The six sizes have no equal for balancing pulleys, gin brushes, turbine rotors, crank shafts, polishing wheels, fly wheels, etc.

"Swing"	20"	40"	60"	72"	96"	72"
Greatest distance bet. standards..	20"	30"	30"	66"	88"	20'
Capacity in lbs.....	1000	2000	2000	5000	10000	24000
Approx. shipping weight.....	45	90	150	350	650	
Code	Bnd	Bld	Bfo	Bib	Ben	

Any of above can be furnished with longer shafts

**Anderson Bros. Mfg. Co.**

1915 Kishwaukee St., Rockford, Ill.

# Our Line Covers All Your Keyseating Needs

And Every Catlin Cuts Keyseating Costs



*Supreme  
in Speed  
Capacity  
Simplicity*

CATLINS are used and giving solid satisfaction both at home and abroad, in shops and plants of every size and description.

This universal popularity can be ascribed to three characteristics of the Catlins—they

- (1) do better work
- (2) in less time and
- (3) at less cost.

In construction they are a happy combination of simplicity and sturdiness. Catlins have less than half the number of parts of other keyseaters, and those parts are thoroly substantial without being clumsy. The picture shows the Catlin No. 1, belt driven, with three-step cone pulley. We also build them for motor drive.

*Glad to mail you the folder, shop records, and partial list of big plants where Catlins have made good*

**Chattanooga Machinery Company**  
2401 Bennett Ave., Chattanooga, Tenn.

## **Weigel Single-Wheel "Kwality Kaster"**

Will not crush or break. Swivels on steel machined rollers. The best single caster on the market.

## **Double-Wheel "Trukaster"**

Lasts three times as long as others. Easiest running, strongest, and most durable double-wheel caster made. Has heavy plates and axes.

*Write for Price List*

**THE HAMILTON  
CASTER & MFG. CO.  
HAMILTON, OHIO**



Patented  
Jan. 30, 1917



**Type 6**

**Shops and Service Stations.**

**Now equipped with Belden Rubber Cord  
Approved by the Underwriters**

*Write for descriptive circular*

**The Cincinnati Specialty Mfg. Co., Inc.  
1903 Powers St., Cincinnati, Ohio**

## **New "AUTEX" Extension Reel 1925 Model**

**Don't Forget the Swivel Joint Feature**

**Permits of carrying the lamp  
in any direction.**

**Rapidly finding a place in large  
Industrial Plants, Machine  
Shops and Service Stations.**

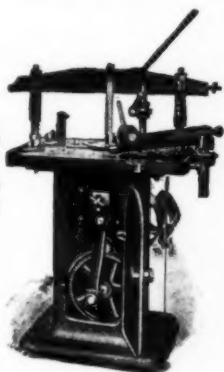




# The Davis Keyseater



Built in two sizes  
Nos. 1 and 2



And  
The  
Job



## The Cutter



In sizes from  
 $\frac{1}{8}$  to 1-inch

Cuts key-  
ways in pul-  
leys, gear blanks,  
bell cranks, crank  
handles, etc.; does  
slotting & oil grooving.

*Write for folder, with table of cutting time*

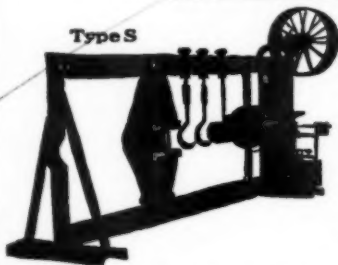
### Davis Keyseater Company

255½ Mill Street,

Rochester, N. Y., U. S. A.

## Lourie Wheel Presses are made with—

**CAST STEEL CROSSHEADS  
I-BEAM BUTTRESSES  
DIFFERENTIAL PUMPS**



There are no better **WHEEL PRESSES**, few as good.

Made in any tons capacity.

Any distance between Strain Bars.

Any length of Ram Stroke.

**LOURIE MFG. CO., Springfield, Ill., U.S.A.**



## Atlas Arbor Presses

**For All Forcing Operations**

Illustration shows our No. 55 Power Drive Press, which is adaptable for fast production work and capable of supplying ten tons pressure.

*Write for our Bulletin—  
showing 30 different sizes*

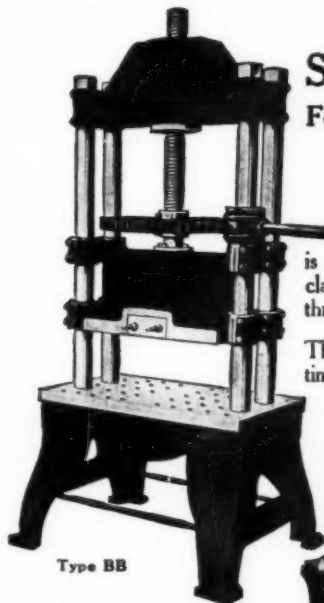
**Atlas Press Co.**

*Department B,  
Kalamazoo, Michigan*

# Two Real Cost Reducers—

## A Four-Post Screw Press For Die Makers

Capacity, 80 tons  
Table, 20"x36"



Type BB

This extremely rigid press is made for a heavier class of work than our three smaller sizes.

They all save hours of time in fitting dies. *One man does the work.* Affords perfect alignment between punch and die.

## And the other—a Surface Grinder

Powerful—rigid—accurate—no vibration—no noise—a revelation in quiet efficiency. Graduated feeds.

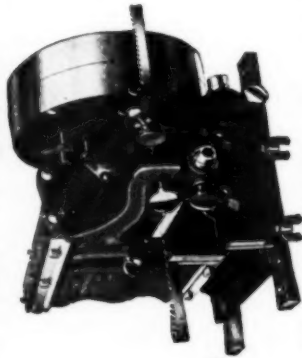
*Details and prices for a postal*

**JARECKI MACHINE  
AND TOOL CO.**

Successors to Manhattan Machine & Tool Works  
Dept. A. GRAND RAPIDS, MICH.



# YOUR BRONZE BRASS OR WOOD SAWS



**Model K, IN ONE OPERATION FILES and SETS** medium or soft tempered bands. The most powerfully constructed machine of this type made. Used by the largest saw makers. They know. Write for specifications on same.

*Write for catalog*

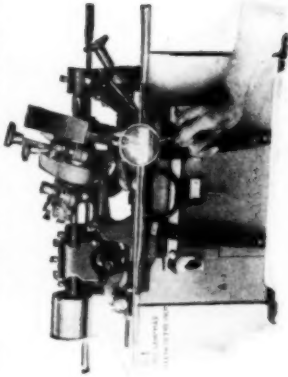
**We also make Circular Saw Filers & Grinders**

*Write for FREE booklet*

**HOW  
DO  
YOU  
RENEW  
THEM?**

**FOR 5¢**

**YOU  
CAN  
DO IT**

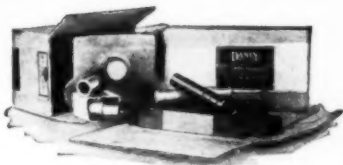


**Model A-2, sharpens and salvages all hard, medium or soft tempered band saws.**

**By salvaging these saws your purchases can be enormously reduced. Why throw them away, when only once used?**

**108 Hamilton Ave., THE WARDWELL MFG. CO., CLEVELAND, OHIO**

# Something Really New!



## Die Sets in the "Knock Down"

Danly Standard Die Sets, completely machined, but in the "knock down," are now available—each element packed in a carton, sealed, ready for shipment from stock, plainly marked for identification, ready for immediate use.



All sizes and combinations are standardized, interchangeable and replaceable. You can now make your own die sets with Danly Standard parts at a worth-while saving. Ask for the facts about this new, far-reaching Danly Service.

[ *Write, wire or 'phone nearest*  
*warehouse* ]

**Danly Machine Specialties, Inc.**

**4913 Lincoln Avenue, CHICAGO**

**Detroit, Mich.  
1537 Temple Ave.**

**Long Island City, N. Y.  
35 Wilbur Ave.**



Nos. 1, 2 & 5

## When All Is Said

and done, you cannot beat our line of tools for cutting sheet, bar or round rods in iron or mild steels.

*You can use our line of*

## Hercules' Shears and Rod Cutters

For cutting card, straw and fibre boards, brass and copper, gold and silver sheets, and hard rubber compositions.

*Catalog No. 2 on request.*

**W. C. & F. C. TUCKER**  
HARTFORD, CONN.



Plain Shears Nos. 3 & 4

## SOMETHING NEW



**Hand Power Presses, Shears, Notchers,  
Punches and Dies, Etc.**

**Write for Booklet**

**J. F. Kidder Mfg. Co., Burlington, Vt.**



## The Old Way

Results in damaged shafts, bushings, pins and other parts, as well as accidents to the workmen.

### With Nicholson Arbor Presses

all of these losses and accidents are eliminated, and considerable money is saved. Made in five sizes that take work up to 20" in diameter and 31" high and exerting pressures up to 9,000 lbs. Can make immediate delivery on all sizes and will be glad to send any size on trial.

#### Nicholson Expanding Mandrels

**Save space**—A set of nine does the work of several hundred solid mandrels.

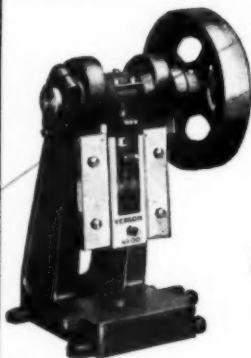
**Save time**—Instantly fit any hole round or square, from  $\frac{1}{2}$ " to 7"

**Save labor**—No need to caliper a dozen or so solid mandrels, or turn one down to fit certain job.

*Write for literature and 30-day trial plan*

**W. H. Nicholson & Co.**  
117 Oregon St., Wilkes-Barre, Pa.





Trade **Version** Mark

Is a symbol of  
**QUALITY**  
found only on Verson  
**Power Presses**  
**Arbor Presses**  
and  
**Angle Shears**

For the prevention of accidents  
insist on Verson presses.

They are equipped with an  
**Automatic Safety Clutch**

*Write for Circular*

**La Salle Machine Works**

3013 S. La Salle St.,  
CHICAGO, ILL.

## There with the Punch

Great Power backed by  
heavy rugged design enable

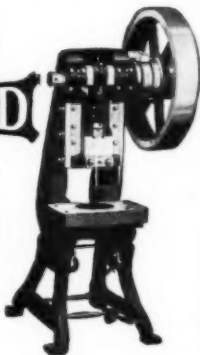
HIGH DUTY  
**ROCKFORD**  
PUNCH PRESSES

to out-punch and out-work  
any press of their capacity.

Their punch-ability and  
accuracy will surprise you.

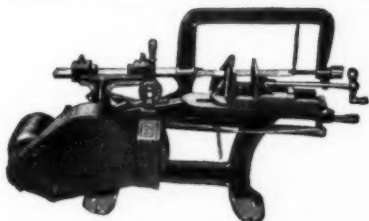
*Write for catalog*

**Rockford Iron Works**  
ROCKFORD, ILL.





A GENERAL WORK  
**Motor Driven Hack Saw**  
Either Stationary or Portable



**Marvel Draw-Cut Hack Saw No. 2**

CAPACITY { 6"x6" on long stroke  
8"x8" on short stroke

Here is a saw that is proving very popular—a motor-driven, substantial, smooth-running, general-purpose Hack Saw of good capacity, that is sold **at a reasonable price.**

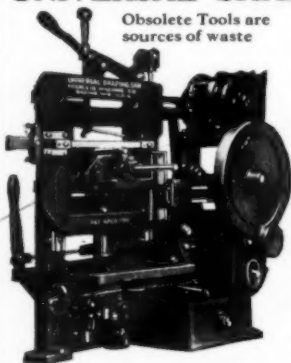
It is furnished either with motor for a high-power circuit as a stationary machine, or with motor for an electric light circuit so it may be moved anywhere in the plant, the cord attached to the nearest lamp socket, and it's ready for business.

Motor is connected to driving crankshaft by silent chain, sprockets and intermediate cut gears enclosed in cast iron housing and guard and run in oil.

We can also furnish the No. 1 Motor Driven Hack Saw, portable, for light circuit, capacity 4"x4". We make other Hack Saws, one of them entirely automatic, and the popular Marvel Metal Band Saw, all furnished either belt or motor drive; also the Marvel Punch, Shear and Bender. Tell us your requirements, and let us send you description and price of what you need.

**Armstrong-Blum Mfg. Co.**  
341 N. Francisco Ave., CHICAGO, ILL.

## —PEERLESS— UNIVERSAL SHAPING SAW



Obsolete Tools are  
sources of waste

Latest and Most  
Efficient in Hack-saws  
Faster — More Accu-  
rate and Economical

### **REDUCES**

Cutting Time  
Wasted Material  
Blade Expense

### **ELIMINATES**

Semi Finishing Jobs  
Cap. 6"x6" & 13"x13"

### **PEERLESS**

HIGH SPEED HACK-SAWS  
6"x6" 9"x9" 13"x16"  
Sturdy--Efficient--Reliable

**Peerless Machine Co.**

1609 Racine St.  
Racine, Wisconsin

*Write for Details*

## Our New Imperial Punch No. 8



Large throat clearance. Capacity  $\frac{1}{4}$ " hole thru  $\frac{1}{4}$ " iron.  
Operating handles will not become disengaged. Roller  
Bearing. No cams to wear out. Just right for standing  
seams or sky-light work.

Don't let the  
punch drive  
home!

## Whitney Metal Tool Company

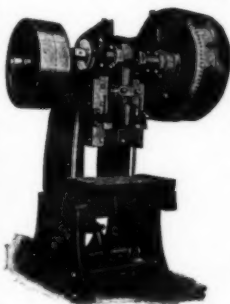
95 Forbes  
Street

**BALL BEARING PUNCHES**

Rockford, Illinois, U.S.A.

95 Forbes  
Street

## A Quality Inclinable Press Backed by a Real Guarantee



A Loshbough - Jordan Press cannot be overloaded while operating within its rated speed. Any shaft or frame broken under these conditions and within year of purchase will be replaced gratis.

Many features for convenience and safety of operator; long, satisfactory service; quality and volume of output excellent.

*Let us tell you about them  
—or better, let us send a  
press on 30 days' trial.*

**Loshbough - Jordan  
Tool & Machine Co.**  
Elkhart, Ind.

## T.H.L. Front Lever Bench Punch

Malleable iron body; working parts hardened. Steel shaft and plunger. Die cannot lose alignment with punch. All parts interchangeable. Built for hardest, toughest work.

**PRICE \$45**

Extra Punches, 20 cents each;  
extra dies, 30 cents.

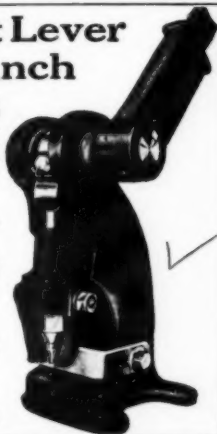
Capacity 13/32" thru 1/4" steel,  
11/32" thru 5 16". Punches up  
to 1/2". Weight, 70 lbs.

*A good buy; can ship promptly*

**T. H. LEWTHWAITE  
MACHINE CO.**

(Est. 1890)

417 E. 31st St., NEW YORK





## "Titan" Positive Drive

### Quick Change Drill Chuck

THE "TITAN" has the good features of other drill chucks, plus two special features, which make it the perfect chuck.

(1) **Quick Change:** Simply strike the end of drill, and out it comes. No hammer or special device required. A one-armed man can do it.

(2) **The Broken Tang Collet** is as positive a drive for broken tang drills as though they had never been broken. The saving is obvious.

*The "Titan" saves time and costs  
Write for descriptive price list*

**Titan Tool Company**  
Erie, Penna.

## Sigourney Sensitive Drills

Plain or Ball Bearing  
Belt or Motor Drive

Sigourney Sensitive Drills are **quality products**, extremely sensitive, accurate and durable, with all parts interchangeable.

The illustration shows a Sigourney ball bearing, motor driven, high speed drill press, made with one to four spindles, to be operated up to 5,000 r. p. m. The ball bearings are self-aligning, in double row.

*Write for circulars and prices*

**Sigourney Tool Co.**  
Hartford, Conn., U.S.A.

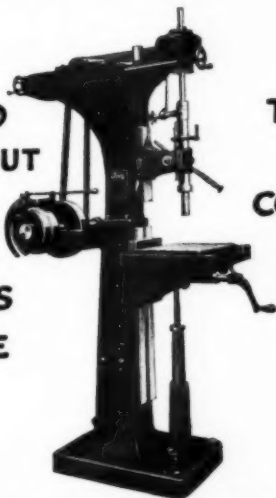


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GET  
THE  
*Avey*

\$

TO DO  
WITHOUT  
AN  
AVEY  
COSTS  
MORE



THAN  
IT  
COSTS  
TO  
BUY  
IT

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THE AVEY DRILLING  
MACHINE CO.  
CINCINNATI  
OHIO

\$

## The "Utility" Sleeve

A Detachable  
Taper Shank  
for  
Straight  
Shank  
Tools



Cuts  
Small  
Tool Costs

Insert a straight shank drill or reamer in this Sleeve, and it works as efficiently as a solid taper shank tool.

Only the straight shank tool of high speed steel is discarded when worn or broken—not the entire taper shank tool. Cuts tool costs, saves time, increases output.

Write for "Utility Tools" Catalog

**The J. C. Glenzer Company**  
6469 Epworth Blvd., DETROIT, MICH.



## Drill Several Holes At the Cost of One

A U. S. Multiple Spindle Drill Head transforms your single-spindle drill into a multiple spindle.

You can drill two or more holes with the same speeds and feeds you use for drilling one.

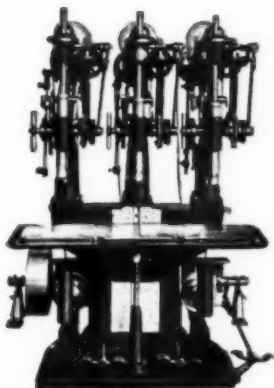
Patented double adjustment permits drilling in any pattern. Special heads made to order.

*Let us help you reduce  
those drilling costs*

**The United States Drill Head Co.,** 1952 W. Sixth St., CINCINNATI, O.

Michigan Agents—National Sales Engineering Corp., Detroit, Mich.

# ROCK-FORD Machine Insures -BOTTOM Drilling Costs



## *The* ROCKFORD Automatic Gang Drilling Machine

"—superior in convenience,  
capacity and workman-  
ship, a real top-notch"

*Built with*  
2, 3, 4 and 6 Spindles  
Box Column Type

*Ask for Circular. Glad to  
answer your questions.*

*The Rockford Appeals  
to Superintendents* — in  
fact, to all practical men  
who are responsible for  
results. As a producer  
it is second to none; as a  
modern, high-class, de-  
pendable machine it gives  
satisfaction and profits  
'way above the average.

*Automatic Return*—  
When each spindle has  
completed its operation it  
automatically returns to  
its highest position, where  
it remains until the start-  
ing lever is tripped, when  
it immediately drops to  
position above the work.

*By Removal*—of the stop  
pin in the cam, the  
spindle will immediately  
return to lowest position  
above work, and when  
tripped by automatic  
stop, will return to high-  
est position and imme-  
diately drop again to  
work, repeating the  
movement automatically  
until the power is shut  
off. The spindle can be  
pulled ahead of the feed  
while in operation, a  
great advantage in drill-  
ing thru a cored piece,  
piping or similar work.

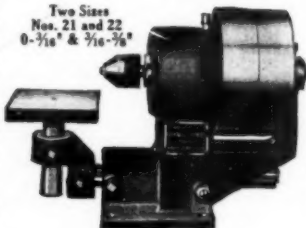
**Rockford Drilling Machine Co.**  
Rockford, Illinois

# High Grade Tapping Machine

At a price you can afford to pay

Here is a machine that will do your work, won't bother you with break-downs and repairs, that your operators will like, and that you will like because it will give you production accuracy and a low installation and operating cost. Cannot give details in this space, but let us send them to you. You'll find it worth while.

Two Sizes  
Nos. 21 and 22  
0- $\frac{7}{16}$ " &  $\frac{7}{16}$ - $\frac{7}{8}$ "



*Your Address will bring them*

**Bicknell-Thomas Company**  
Greenfield, Mass.

## So Easy to Take Out Broken Taps



Picture shows fingers (at left) of the

Walton Tap Extractor inserted in work—

All that is necessary now is to twist the tool forward and backward a few times to loosen the broken piece, and then it's easy to back out the tap, without injury to the threads.

The cost is small. Oftentimes it's returned to you in removing just one tap. Investigations by one of the largest makers of taps and dies in this country showed that about 90% of taps break while in use. This assures you that a Walton will earn its cost many, many times over. Sizes No. 8 to  $1\frac{1}{4}$ ".

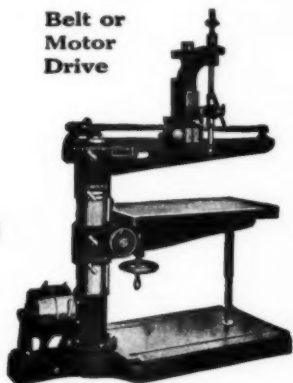
*Shipped on 60 days' approval. Did you say "ship"?*

**THE WALTON CO., Hartford, Conn.**



# THE TAYLOR & FENN Sensitive High-Speed Radial

**Belt or  
Motor  
Drive**



## ***This Great Manufacturers' Drill—***

combines the speed of the sensitive with the flexibility of the radial, for practically all drilling requirements within its range. Drill the big pieces on the base and the small pieces on the table.

Tapping heads, power feed heads or hand lever feed heads may be used singly or in combination.

The drive is positive, through gears and silent chain. The spindle has three speeds and is bored for No. 2 Morse taper.

*A thorough investigation of this machine will repay you  
We shall be glad to furnish complete data upon request*

**The Taylor & Fenn Co.**  
**Hartford, Conn., U. S. A.**

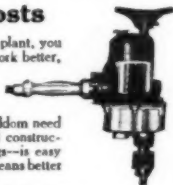
# Thor

## Electric Drills —

### Lower Drilling Costs

WHEREVER you use a drill in your plant, you will find that a THOR will do the work better, faster, and more economically. The THOR is especially designed for speed, power and endurance.

A THOR is strong and powerful. They seldom need repairs. The reason is because of its rugged construction. A THOR has ball and roller bearings—is easy running and all friction is eliminated. This means better work and lower costs.



### Jacobs Chucks Regular Equipment

Our new illustrated catalog—just out—shows the various types of THOR Drills. Why not write for a copy? It will show you ways to cut your drilling costs. We also manufacture the World Famous THOR Pneumatic Tools.

**Independent Pneumatic Tool Co.**  
600 W. Jackson Blvd., Chicago, Ill.



## Why Break Taps?

### The Woodstock Improved Safety Tapping Chucks Eliminate this Waste

No matter how difficult the work, the Woodstock makes it safe to tap tough metals, blind tapping, and bottom tapping in shallow holes where a stop on a machine becomes a joke.

This money-saver automatically releases tap the minute it binds or strikes bottom. The five sizes use standard taps.

*Glad to send you one on trial*

**Peter Bros. Mfg. Co.,** 115 Railroad St., ALCONQUIN, ILL.



## Threading at 3000 R. P. M.

These rods are being threaded with a No. 8-32 thread 5-16" long, at an average production of 1400 pieces per hour on our Standard High Speed Tapping Machine.

*How about your  
threaded work?*

**Leland-Gifford Co.**  
Worcester, Mass., U. S. A.



## *The* **BARKER** GENERAL PURPOSE **WISE**

For Planers, Shapers, Drilling and Milling Machines



### Two Sizes

Width of jaws  $11\frac{1}{2}''$ — $12''$

Depth of jaws  $2\frac{1}{2}''$ — $3''$

Jaws open  $8''$ — $12''$

Weight 180—210 lbs.

Also 16" Mold Makers' Vise

OUR MOLD MAKERS' VISE has 13" width of jaws, 7" depth, and jaws open 16"—weight 290 lbs.

ALL BARKER VISES are made extra heavy, with steel faced jaws, and are graduated to swivel any angle. They stand lots of hard usage.

*Get in touch with us before buying*

**WM. BARKER & CO.**

Manufacturer of Machine Tools,

COVINGTON, KY.

Motor Driven, \$50 to \$55

Belt  
Driven  
\$20  
and  
\$24



No. 1

## Burke 10" BENCH DRILL

Extremely accurate, very sensitive and of Burke Quality.

Excellent for production work. A real time and money saver when placed at convenient points about the shop.

*Send for Catalog of Drilling, Tapping and Milling Machines*

**The Burke Machine Tool Co.,** 297 E. 16th St.,  
Conneaut, Ohio

# NEW PRICES

## ETTCO KEYLESS DRILL CHUCKS



## PRICES

No. 1	Etcco—0 to 17/64"...	\$ 5.50
No. 2	Etcco—0 to 25/64"...	6.50
No. 3	Etcco—0 to 17/32"...	9.00
No. 3½	Etcco—1/8 to 3/8".....	11.00
No. 1	Morse Taper Shank...	.75
No. 2	Morse Taper Shank...	.75
No. 3	Morse Taper Shank...	1.00
No. 4	Morse Taper Shank...	1.50
½" and 41/64"	Straight Shank...	1.00

Chucks—Less 20%.

Morse Taper Shanks—Net.

ETTCO Drill Chucks are especially adapted to Electric and Air Drills. No key to lose, Chuck is Self-tightening, so drill will not slip after the work is started.

Information to equip Electric or Air Drill:—Capacity of Drill and Make.

## Special Exchange Feature!

See Your Dealer or Write Us

We will allow you a special discount of 35% on exchange of chucks. We will accept any chuck from you regardless of make or condition, and replace it with a new Etcco Keyless Drill Chuck, at the above discount.

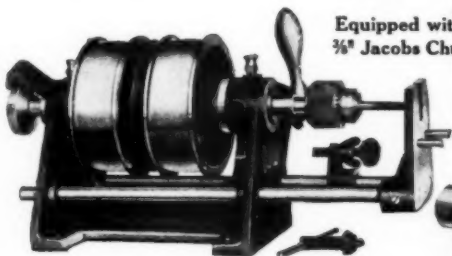
**Eastern Tube & Tool Co., Inc.**

580 Johnson Ave., Brooklyn, N. Y.

Jacob  
Ch...

# "The Bench" Tapping

Equipped with  
3/8" Jacobs Ch...



*You'll like this Tapper. For further*

**THE BENCH MACHINE TOOL COMP**

*This advertisement  
interests of good Dr  
by the makers of the*

**Speed up y**

Jacobs  
Chucks

## ing Machine No. 2 For 3/16" to 3/8" TAPS and DIES

ped with a  
Jacobs Chuck

**For Production Tapping** on a variety of work. Tapping speeds, 300 to 1500 r. p. m., limited only by the speed a tap will stand. It easily taps from 10 to 30 holes a minute.

**Entirely Self-Contained.** A clutch shifter and lock are built into the machine, which eliminates the usual countershaft.

**Easy to Operate.** No skill is required, the operation being very simple—thus combining speed with ease of handling. Then there is "The Bench" No. 1, for smaller work, which is made especially sensitive.

For further information, just drop a line to—

COMPANY, 220 N. 13th St., Philadelphia, Pa.

ent is published in the  
Drilling Equipment  
the Jacobs Chuck

up your work with good tools



# Steel Bearing Balls

**Brass, Bronze, Aluminum  
and Monel Metal Balls**

**Steel  
Burnishing  
Balls**



**Burnishing  
Cones**

**Burnishing  
Pins**

**Immediate Shipments from Stock**

**Ask for Price List 23-H**

**The Abbott Ball Company**

**Elmwood District,**

**Hartford, Conn.**

## Actual Riveting Results



### **Are Most Convincing**

Send us sample of your most difficult work, in close corners or out-of-the-way places, let us rivet it on the—

### **Grant Rotary Riveter**

—and we will return it with time and cost estimate.

The "Grant" produces highly polished heads, without hammer or tool marks. Speed, a rivet per second. May be operated by cheap help. And it's noiseless.

*Send along your sample for riveting*

*And ask for the Catalog*

**The Grant Mfg. & Machine Co.**

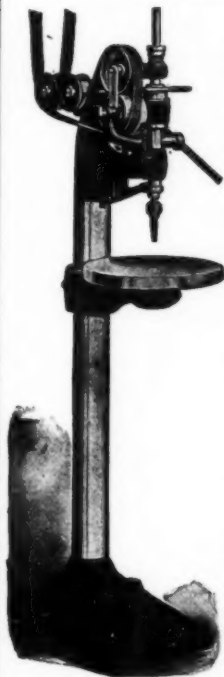
**C. E. Station,**

**Bridgeport, Conn.**



# Better Tapping Machines?

Use the "R-S" Friction Driven



## Vertical Tappers

Equipped throughout with SKF thrust bearings. All annular bearings of phosphor bronze. Spindle travels to and from the work. Floor type only. Sizes,  $\frac{1}{4}$ " and  $\frac{1}{2}$ ".

## Horizontal Tappers

Efficient and time saving. Can be direct connected to motor. Sizes,  $\frac{3}{16}$ ",  $\frac{5}{16}$ " and  $\frac{5}{8}$ ". Bench or floor type.

## Radial Tappers

Reduce handling of heavy auto and machine tool parts. Topnotch manufacturing machines that increase output and profits. Capacity of  $\frac{1}{2}$ " in steel.

## The Friction Drive

is under perfect control and highly efficient. The instantaneous reversing mechanism prevents breakage of tools.

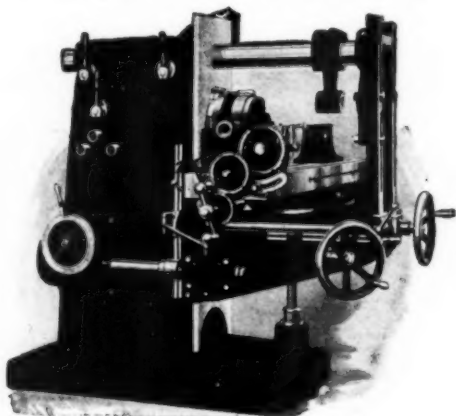
*Complete details are given in our  
Tapping Machine Bulletin.  
Send for it now—why wait?*

## Rickert-Shafer Company

1110 Cherry Street,

ERIE, PENNA.

## 30 New Milling Machines Reduced \$1000



20 Universal and 10 Plain Millers carrying our guarantee, will be sold at prices only a little above the second-hand machinery market.

Features: Combined Helix and Worm Drive to Spindle; direct reading index for feeds; range, Plain 35"x14"x20"; Universal 34"x13"x18½".

### PRICES

Plain..... \$1400.00

Universal ..... \$1800.00

F. O. B. Chicago

*Write for a complete description of these machines*

# JOSEPH T. RYERSON & SON INC.

CHICAGO MILWAUKEE ST. LOUIS DETROIT  
CINCINNATI BUFFALO NEW YORK

## Second-Hand Machinery

Lists of Second-Hand Machinery, either For Sale, Wanted or For Exchange, set in uniform style, will be published under this heading at the rate of **30 cents a line**, across the page, each issue, plus **\$2.50** for name and address. Minimum charge, **\$5.00**. No display permitted in this department.

**Write directly to those offering the machines for sale** for prices and full descriptions. If what you seek is not listed, use the blank enclosed to make known your wants to the publisher, who will pass them along to all Machine Tool Blue Book advertisers.

**Circulation of Machine Tool Blue Book, 25,000**

### FOR SALE BY

**Atlantic Manufacturing Company,** - - - **Wilmington, Del.**  
BELTING.

Fine lot of used reconstructed leather belting. Also several sizes new stock and pressed steel pulleys. Special prices. Write.

### FOR SALE BY

**Eastern Machinery Co.,** 408 East Pearl St., Cincinnati, Ohio  
RADIAL DRILLS.

Two—4' Fosdick heavy duty plain radial drills, gear box drive, tapping attachments, and complete with square box tables; very late type and 95% new condition; special low prices.

### FOR SALE BY

<b>The Reeve-Fritts Company,</b>	<b>558 Washington Blvd., Chicago, Ill.</b>
Drill, 30" C. & O. radial.	Lathe, 13"x6" Willard.
Filing machine, No. 3 Barry, floor.	Miller, No. 2 Becker universal.
Grinder, Grand Rapids, drill.	Screw mach., No. 3 Foster, pr. fd. tr.
Grinder, No. 1 Besly, disc, 12".	Screw mach., No. 2 Foster.
Lathe, 10"x4' Prentice.	Spot welder, Taylor, $\frac{3}{8}$ " capacity.

### FOR SALE BY

**Hamblin & Russell Mfg. Co.,** - - - **Worcester, Mass.**  
STEAM ENGINE.  
One Brown steam engine, 100 to 150 h. p.; diam. of cylinder 13"x34" face stroke; diam. of drive wheel 11', with face 19 $\frac{1}{2}$ ". In perfect order; has not been used since the war. Net weight 16,500 lbs. Built in Fitchburg, Mass., 1912. Price today new \$2,500. Our price f. o. b. cars \$650.

### FOR SALE BY

**W. P. Little Co.,** - **West 9th & Front Sts., Cleveland, Ohio**  
RADIAL AND MULTIPLE DRILL PRESSES.  
4' arm W. E. Gang radial. | 3' arm Aurora radial.  
Kickert & Shafer radial tapper. | 1-spindle Rockford, auto. feeds.  
LATHES.  
16"x 6' Bradford, q. c. and t. a. | 16"x 8' F. E. Reed, taper attach.  
16"x10 Cincinnati, d. b. g. & q. c. g. | 18"x 8' Porter, d. b. g.  
MILLING MACHINES.  
18" Cincinnati, back geared. | U. S. hand miller.  
PUNCH PRESSES.  
No. 3 Long & Allstater, dbl. end. | No. 14 Williams & White, (2).  
INTERNAL GRINDERS.  
No. 6 Bryant internal. | No. 75 Heald internal.  
MISCELLANEOUS.  
Broach, 3-A LaPointe Hudson. | Spline miller, 2" Pratt & Whitney.  
Hammer, 50 lb. Bradley upright. | Turret, No. 4 Warner & Swasey.  
Hammer, 250 lb. Morgan steam. | Turret, No. 6 Warner & Swasey.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Cyril J. Bath & Co., 6900 Machinery Ave., N. E., Cleveland, O.**

#### BORING MILLS.

36"—44" Niles, with side head, 85%.

42" Baush, 2 swivel heads, 75%.

#### DRAW BENCHES.

15,000 lbs. to 25,000 lbs. Waterbury-Farrel, United Engineering and Standard; 20" draw, with 18' extensions for mandrels, heavy cast iron; 85%.

#### DRILLS—MULTI-SPINDLE.

4-spindle 20" Barnes, 85%.

4-spindle Foote-Burt sensitive, 85%, (2).

#### DRILLS—RADIAL.

No. 3, 10' Cleveland Punch & Shear wall radials.

No. 1, 8' wall radial.

1—4' Cincinnati plain, 70%.

#### DRILLS—UPRIGHT.

Small 15" drills, 70%, (2).

20" Mechanics-Rockford, 60%.

24" Rockford, as above, 65%.

24" Kokomo hi-speed, slid. hd., 85%.

24" Aurora, slid. hd., gr. fd., 85%, (2).

24" Cincinnati, slid. hd. , fric. bk. grs.

28" Cincinnati, sliding head, 80%.

32" Cincinnati, with tap. att. , 75%.

24" No. 25 Foote-Burt, 90%.

#### FORGING MACHINES AND BULLDOZERS.

No. 3, Williams & White double end bulldozer, 80%.

1" Ajax, 75%, (3).

4" Acme, steel bed, 90%.

250-ton Mesta steam hydraulic, 85%.

#### GRINDERS.

14" all steel Acme, 85%.

No. 3 Brown & Sharpe univ. , 70%.

10x36" Modern univ., and parts, 70%.

84" Diamond surface, 85%.

No. 75 Heald internal, with extra spindles and c/s., 85%.

No. 4 Gardner, motor, disc, 85%.

Washburn drill grinder, 70%.

Yankee drill grinder.

Whitney wet tool grinder, 20"x2" wheel; 75%.

#### HAMMERS.

No. 6 Nazel, air, motor drive.

No. 8 Beaudry, power, arranged for motor drive, 80%.

100-lb. Bradley, helve, 75%.

500-lb. Bradley, upright helve, 80%.

600-lb. Merrill, board drop, 75%.

800-lb. Billings & S., board drop, 75%.

800-lb. Waterbury-F., board dr., 75%.

800-lb. Lane, steam forging, 80%.

850-lb. Bell, steam forging, 85%.

1500-lb. Waterbury-Farrell, board drop, 80%, (2).

2000-lb. Waterbury-Farrell, board drop, 80%, (2).

800-lb. to 4000 lb. Chambersburg and Massillon steam drop hammers.

#### LATHES.

14"x6" Hendey tool room, t. a., 75%.

16"x8" Hamilton, belt feed, 50%.

16"x9" Lehmann, 85%.

16"x9" Chard, with chucks, 90%.

18"x8" Lodge & Shipley, 70%, (4).

18"x8" American, 3-step cone, late model, compound rest, 85%.

18"x8" LeBlond, friction hd. , 60%.

20"x8" Lodge & Shipley, d. b. g., 75%.

24"x12" Reed, belt feed, loose change gears, 60%.

26"x14" Bridgeford, geared hd., 85%.

32"x18" Schumacher, cone head, 60%.

36"x18" Schumacher, tri bk. grd., 75%.

48"x26" Bridgeford, grd. hd., t. a., 85%.

#### MILLING MACHINES.

Style "B" Gooley & Edlund, 80%, (2).

20"x17"x18" Oesterlein plain, 50%.

No. 0 Steptoe plain, univ. heads, 90%.

No. 0 Rockford, new.

No. 1 Rockford pl. bk. geared, 90%.

No. 2 Brown & Sharpe vertical, 50%.

No. 3 Brown & Sharpe, plain, 65%.

No. 3B Brown & S., pl., heavy, 60%.

No. 3 Becker, table 28x10, 60%.

No. 5 Becker, 50%, (4).

No. 13 B. & S., Lincoln type, 50%.

30"x10" Newton slab miller, arranged for motor drive, 80%.

Becker miller, model "C," table

14"x54", motor drive, 85%.

#### PLANERS.

22"x24"x57" Fitchburg, 75%.

24"x24"x6" Liberty, 1 head, new.

24"x8" Pond, single head, 50%.

30"x30"x8" Gray, single head, 80%.

30"x8" Lodge & Davis, sgl. hd., 50%.

48"x48"x16" Gray, 4 hds., mtr. dr., 90%.

60"x48"x16" Pond, 2 hds., old style, light pattern, 50%.

#### PIPE MACHINES.

4" Jarecki, with dies and countershaft, late model, 85%.

8" Jarecki, with dies and countershaft, late model, 85%.

## SECOND-HAND MACHINERY

**Cyril J. Bath & Co.—Continued**

### PRESSES.

- Waterbury-Farrel trimmers, 56" flywheel, 4" stroke, 60%, (3).  
 No. 57 Toledo trimmer, with side shear, 80%.  
 Small Pratt & Whitney trimmer, stroke 3", 70%.  
 No. 57 Toledo trimmer, geared, 80%.  
 No. 54 Bliss trimmer, 80%.  
 Waterbury-Farrel trimmers, 60" flywheel, 80%, (2).  
 No. 55 Cleveland trimmer, 85%.  
 Old No. 56 Toledo trimmer, 75%.  
 P4 Ferracute, 50%.  
 59½ Toledo, straight side, single crank, tie rod frame, 80%.  
 No. 6 Niagara inclinable, 75%.

### PUNCHES AND SHEARS.

- No. 2 Hilles & Jones horizontal punch, 70%.  
 54" gap American ship punch, capacity 1" thru 1", 70%.  
 5" Pels bar shear, all steel frame, 85%.

### SLOTTERS.

- 10" Newton, with countershaft, 75%. | 16"-18" Dill; adjusting ram, arranged  
 12" Sellers, 75%. | for motor drive, 80%.

### SAWS.

- No. 3 Ajax hot saw and burring machine, complete, 80%. | 6" Racine hack saw, 75%.  
 | 9" Racine hack saw, 75%.

### SHAPERS.

- 20" American, crank, belt, 80%. | 24" Gould & Eberhardt crank, back  
 21" Averbek, 75%. | geared, 85%, (2).  
 24" Walcott, crank, back geared, 90%.

### TURRET LATHES AND SCREW MACHINES.

- 21" Gisholt, standard model, 70%. | No. 4 Bardons & Oliver, 50%.

### WOODWORKING TOOLS.

- 12" Fay & Egan pattern lathe, 90%. | 15" Silver post drill, 90%.  
 Fay & Egan pony planer, 90%. | Fay & Egan rip saw, 90%.

### MISCELLANEOUS.

- Air compressor, 14"x12" Ingersoll-Rand, with tank, class E. R. I., serial  
 No. 33413, 85%.  
 Blower, American, 9' fan, motor driven, 85%.  
 Blowers, Sturtevant, motor driven, 85%, (2).  
 Boring machine, for cylinders, portable, 4" bar, 7" feed, arranged for motor  
 or engine drive, 75%.  
 Gear cutter, 36" Gould & Eberhardt, 60%.  
 Gear hobbors, No. 12 Barber-Colman, 90%, (2).  
 Magnetic chucks, 90%, (2).  
 Riveter, Hanna I-beam frame, 12" gap, 90%.

## FOR SALE BY

**The O'Brien Machinery Co.,**

**113 N. Third St., Philadelphia, Pa.**

- Drill, 32" Aurora, motor driven, tapping attachment.  
 Hammer, 100 lb. Massillon, steam.  
 Lathe, 22"x11" Lehmann, geared head, taper attachment.  
 Lathe, 22"x12" Mueller.  
 Lathe, 24"x12" Schumacher & Boye.  
 Lathe, 26"x21" Whitcomb-B., nitr.dr.  
 Lathe, 36"x18" L. & S., taper attach.  
 Miller, No. 3-H LeBlond plain.  
 Miller, No. 3-B Hendey plain.  
 Miller, No. 3 Kempsmith universal.  
 Pipe machines, 2", 4", 6", 8" & 12".  
 Oster, Cox, Eaton-Cole & Burnham and Jarecki makes, belt or motor driven, complete stock.  
 Planer, 36"x36"x12" Woodward & Powell, motor driven, 3 heads.

- Presses, Nos. 18, 19 and 20 Bliss.  
 Planer, 54"x54"x14" Pond Machine Tool Co., two heads.  
 Press, No. 54 Toledo gr. str. side.  
 Punch and shear, No. 3 Hilles & J., dbl. end, motor dr.; punch end, 42" thrt., cap. 1½" thru 1"; shearing end, 36" thrt., cap. 1" plate, 2½" round, 7"x1½" flat, 5"x5"x½" angle.  
 Radial drill, 36" Gang.  
 Radial drill, 5' Mueller.  
 Shapers, 12", 14", 16", 21" and 24" stroke, assorted makes.  
 Trimming press, No. 75½ Bliss, straight side, with side shear attachment.  
 Turret lathe, No. 6½ Bardons & Oliver, wire feed, cabinet base.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Niles-Bement-Pond Company, 111 Broadway, New York**

**Located at our various factories**

**A Partial List of the Machines is given herewith**

#### LATHES.

- |                                  |                                      |
|----------------------------------|--------------------------------------|
| 10"x 5' Pratt & W., toolmakers'. | 30"x14' Pond, quick change.          |
| 14"x 6' Pratt & Whitney.         | 32"x17' Pond, triple geared.         |
| 14"x 8' Pratt & Whitney.         | 32"x67' Bement, triple grd., mtr.    |
| 16"x 8' Pratt & Whitney.         | 36"x12' Pond, triple grd., motor dr. |
| 16" Pratt & Whitney toolroom.    | 36"x17' Pond, triple grd., motor dr. |
| 17"x 8' LeBlond, motor drive.    | 36"x28' Bement, triple geared.       |
| 18"x10' Bement.                  | 36"x76' Bement shafting lathe.       |
| 20"x12' Bement.                  | 48"x28' Niles, triple geared.        |
| 21"x10' LeBlond, motor drive.    | 60"x44' Pond, motor drive.           |
| 24"x14' Pond, quick change.      | 24"x26' Pratt & W. turret lathe.     |
| 26"x10' Pond, motor drive.       | 3"x36" Pratt & W. turret lathe.      |
| 26"x16' Pond, quick change.      | 32" Pond rigid turret lathe.         |

#### PLANERS.

- |  |   |
|--|---|
| 24"x24"x 6' Whitcomb.  | 48"x48"x20' Pond, 4 hds., rev. mtr. dr.               |
| 24"x24"x10' Whitcomb.  | 54"x54"x18' Pond, 4 hds., rev. mtr. dr.               |
| 26"x26"x 6' Gray.  | 60"x60"x20' Niles, 3 hds., parallel dr.               |
| 30"x30"x 6' Pond, 2 hds., rev. mtr. dr.                        | 60"x60"x20' Pond, 4 hds., rev. mtr. dr.               |
| 30"x30"x12' Pond, 2 hds., rev. mtr. dr.                        | 72"x60"x14' Bement, 4 heads, reversing motor drive.   |
| 36"x36"x12' Bement, 4 hds., paral. dr.                         | 72"x72"x32' Ridgway, 4 heads                          |
| 36"x36"x14' heavy Pond planer, 4 heads, reversing motor drive. | 96"x84"x42' Bement, 5 heads, reversing motor drive.   |
| 36"x36"x24' Bement, 4 hds., paral. dr.                         | 120"x120"x36' Betts, 4 heads, motor drive thru belts. |
| 36"x38"x12' Niles, 4 hds., parallel dr.                        | 143"x96"x36' Bement, 5 hds., r. m. d.                 |
| 42"x42"x15' Pond, 4 hds., parallel dr.                         |   |
| 42"x42"x26' heavy Pond planer, 4 heads, reversing motor drive. |   |

#### SHAPERS AND SLOTTERS.

- |  |                                   |
|--|-----------------------------------|
| 17" Bement dbl. trav. hd. shaper.                      | 10" Bement slotter.               |
| 22" Bement single traveling head shaper, motor driven. | 15" Bement slotter, motor driven. |
| 6" Bement slotter.                                     | 21" Bement slotter.               |
|  | 30" Bement slotter, motor driven. |

#### MILLING MACHINES.

- |   |                                   |
|---|-----------------------------------|
| No. 3 Brown & Sharpe plain, motor driven. | No. 5 Brown & Sharpe vertical.    |
| No. 3 LeBlond plain, single pulley.       | 6"x45" Pratt & W. thread miller.  |
| No. 3 Cincinnati, vert., m. d.            | 6"x80" Pratt & W. thread miller.  |
| No. 5 Brown & Sharpe plain.               | 6"x132" Pratt & W. thread miller. |

#### GEAR CUTTERS.

- |                                  |                            |
|----------------------------------|----------------------------|
| No. 3 Brown & Sharpe spur.       | No. 5 Brown & Sharpe spur. |
| No. 4 Brown & Sharpe spur.       | No. 5 Newark spur.         |
| No. 4 Newark spur, motor driven. | No. 6 Brown & Sharpe spur. |

#### DRILLING MACHINES.

- |  |   |
|--|---|
| 32" Aurora.                                      | 6' Ridgway radial, motor driven.              |
| 40" Bement "Goose-neck" drill.                   | 6' Pond radial, motor driven.                 |
| No. 13 Pratt & Whitney adjustable multi spindle. | 6' Niles semi-universal radial, motor driven. |
| No. 2 Bement cotter & keyseat drill.             | 6' Niles univ. radial, motor driven.          |
| 5' Ridgway radial, motor driven.                 | 8' Pond radial, motor driven.                 |

#### VERTICAL BORING MACHINES.

- |  |  |
|--|--|
| 36"-44" Niles side hd. mill, motor dr. | 100" Niles boring & turn'g mill, m. d. |
| 37" Niles boring & turn'g mill, m. d.  | 10' Niles boring & turn'g mill, m. d.  |
| 50" and 60" Niles pulley borers.       |  |

#### HORIZONTAL BORING MACHINES.

- |   |  |
|---|--|
| 46" Bement horizontal boring and drilling machine, 24" bar.               |  |
| 60" Bement horizontal boring and drilling machine, 24" bar.               |  |
| 62" Bement horizontal boring and drilling machine, 34" bar.               |  |
| 66" Bement horizontal boring and drilling machine, 44" bar.               |  |
| 80" Bement horizontal boring and drilling machine, 54" bar, motor driven. |  |
| 60" Bement duplex control boring machine, 34" bar, motor driven.          |  |
| 72" Bement duplex control boring machine, 44" bar, motor driven.          |  |
| Pond floor drill, 3" bar.   |  |

## SECOND-HAND MACHINERY

### Niles-Bement-Pond Company—Continued

#### HORIZONTAL BORING MACHINES—Continued.

Bement boring, drilling and milling machine,  $3\frac{1}{2}$ " bar, motor driven.  
Niles boring, drilling and milling machine,  $4\frac{1}{2}$ " bar, motor driven.  
Niles boring, drilling and milling machine, 5" bar, motor driven.  
Niles boring, drilling and milling machine,  $6\frac{1}{4}$ " bar.  
Bement boring, drilling and milling machine, 6" bar, motor driven.

#### ELECTRIC TRAVELING CRANES, 220 V., D. C.

50-ton crane, 60' span.	3-ton crane, 20' $2\frac{1}{2}$ " span.
30-ton crane, 80' span.	2-ton crane, 19' span.
25-ton crane, 45' span.	4-ton Yale & Towne electric hoist on
5-ton crane, 20' span.	28' span crane bridge.
3-ton crane, 22' 6" span.	5-ton electric jib crane, 28' boom.

#### POWER HOUSE EQUIPMENT.

200 k. w. Thompson-Ryan generator, 250 volts, direct current, direct connected to Corliss steam engine, 100 r. p. m.  
100 k. w. Thompson-Ryan generator, 240 volts, direct current, direct connected to McEwen Ridgway engine, 250 r. p. m.  
250 k. w. General Electric synchronous converter, 2-phase, 60 cycle, with two transformers for 2300 volts—250 volts direct current.  
200 h. p. non-condensing Corliss engine.  
250 h. p. non-condensing Corliss twin engine.  
125 h. p. Philadelphia non-condensing cross-compound Corliss engine.  
10x10x12" Laidlaw, Dunn Gordon class J. E. duplex air compressor.

#### MISCELLANEOUS.

Bolt cutter, 2" Acme, single, m. d.	Punch, "B" L. & A., 24" throat, m. d., 24" thru 14"
Grinder, No. 3 B. & S. univ., mtr. dr.	Punch, No. 3 L. & A., hor., 12" thrt., m. d.
Grinder, 22"x7" Pratt & Whitney vertical surface, motor driven.	Punch, "D." L. & A., dbl., 36" thrt., 3" thru 14"
Grinder, No. 71 Heald inter., mtr. dr.	Shear, gate, No. 7 L. & A., 12" thrt., 72"x4"
Hammer, 350 lb. Bement sgl. fr. atm.	
Pipe machine, 2" Cox, m. d.	
Punch, No. 2 L. & A., 48" throat, m. d., 1" thru 1"	

All motor driven machines are for 220 volts, direct current.

## FOR SALE BY

### McCoy-Brandt Machinery Co.,

Air compressors, steam, 909, 2052 and 2200 cu. ft.  
Air compressors, 116 & 442 cu. ft.  
Air compressor, 179 cu. ft. belted to motor.  
Bolt cutter, 24" Landis, single head.  
Boring mill, 42" Bullard, New Era t.  
Boring mill, 48" Colburn, 2 heads.  
Boring mill, 10' Niles, 2 heads.  
Bulldozers, Nos. 2, 4, 6 and 30.  
Drills, radial, 5' Prentice, s. p. d.  
Flanging machine, McCabe pneumatic, capacity 4".  
Forging machines, 2", 3", 4" and 5".  
Grinders, 12"x48" Cincinnati plain.  
Grinder, 10"x72" Norton pl., m. d.  
Grinder, Gisholt universal tool.  
Grinder, 36" Diamond wet tool.  
Grinder, 10x32" Ott universal.  
Grinder, No. 4 Gardner double disc.  
Lathes, 14"x6" Hendey, grd. hd., m. d.  
Lathe, 17"x12" LeBlond, g. h., t. a.  
Lathe, 19"x14" LeBlond, grd. hd.  
Lathe, 24"x26" American, c. c. g., m. d.  
Lathes, 30" and 27"x18" L. & S., q. c. g., m. d., t. a.

### 210-14 Penn Ave., Pittsburgh, Pa.

Lathe, 36"x20" Sidney, q. c. g., cone.  
Millers, horiz., Nos. 3 & 5 Cincinnati.  
Miller, No. 14-MP Garvin plain.  
Miller, vertical, No. 0 Bickett.  
Millers, vertical, No. 3 Brown & Sharpe, motor drive.  
Millers, Nos. 2, 5C & 6 Becker vert.  
Nut tappers, 10 spindle, rotary, cap. 1 1/2" nuts.  
Pipe machines, 12", 10", 8", 4" & 2".  
Planer, 36x36x12" Powell, 3 heads, like new.  
Planer, 30x30x8" Gray, 2 hds., 98%.  
Planer, 30"x30"x8" Flather, 1 head.  
Press, No. 68 Bliss, double acting.  
Punch, 48" thrt., 1" thru 1", arch, jaw.  
Punch, dbl. end, 20" throats, 14"x1".  
Rolls, bending, 16"x8" Wickes, m. d.  
Rolls, leveling, H. & J. 62", 11 rolls 54" diam.  
Shaper, Niles trav. hd., 26", 2 hds.  
Shear, angle, 6"x6" L. & A. dbl., m. d.  
Shears, guil., cap. 24" and 2" and 1".  
Shear, rotary bevel, cap. 4", m. d.  
Shear, rotary, cap. 4", with circ. att.  
Turret lathe, 18" Libby, like new.

## SECOND-HAND MACHINERY

### FOR SALE BY

**A. F. Strafer,** - - - **30 Church St., New York City**

#### MODERN TOOLS FROM A U. S. SHIPPING BOARD PLANT

Boring mill, 53" Niles-Bement-Pond, latest type, rapid traverse, motor drive, automatic starter, dynamic braking.

Boring mill, 60" Niles-Bement-Pond, single pulley drive.

Milling machine, Ohio universal, 34"x12"x19", latest design, complete universal equipment, used 100 hours.

Radial drill, 44" Morris, like new, tapping att., speed box, depth gauge.

Radial, 6" Baush, heavy type, latest, belt driven, new.

Radial, 6" Baush, belt drive, latest, slightly used.

Shaper, 25" Smith & Mills heavy back geared, used six months.

Turret lathe, 30x36 Cincinnati Acme, grd. hd., complete, chuck equipment.

Each of the above tools will give service practically equal to new machines.

Satisfactory operation is guaranteed or money refunded.

#### BORING MILLS, VERTICAL AND HORIZONTAL.

72" Pond, belted motor drive.

24" Bullard, v. t. l., New Era.

3" & 4" bar Rochester, floor type.

51" Bullard, belt drive.

53" Niles-B.-P. rapid trav., d. c., m. d.

No. 2 Rochester, 3" bar, s. p. d.

60" Niles-B.-P., vertical, s. p. d.

No. 3 Universal horizontal, s. p. d.

12" Betts, geared feed, belt drive.

96" Bickford standard, belt drive.

61" Bullard New Era, v. t. l.

6" bar Niles horiz., knee type.

#### DRILLS, UPRIGHT AND RADIAL.

6" Baush, belt drive, new.

5" Baush, belt drive.

44" Morris, latest type, s. p. d.

6" Niles-Bement-Pond universal.

44" Dreses, motor drive.

No. 310 Baker, heavy duty.

28" Sibley, sliding head.

26" Barnes, sliding head.

#### GRINDERS

No. 16 Blanchard, motor drive.

Springfield Brandes, 12x48" surface.

No. 60 Heald cylinder.

10"x24" Landis, self contained.

10"x30" Webster & Perks univ.

No. 2 Brown & Sharpe, surface.

#### LATHES

50"x30" Pittsburgh, quick change.

27"x18" LeBlond, heavy.

18"x 8" Morris.

44"x24" Niles-P.-B., t. g., belt drive.

38"x34" Pond, 2 carriages.

20"x 8" American, quick change.

#### TURRET LATHES.

34"x36" Cin'ti Acme flat, modern,

geared head, chuck equipment.

24" Gisholt, 64" hole thru spindle.

24"x24" J. & L., bar equipment.

21" Gisholt, 2-step cone, modern.

24"x26" Greenlee, chuck equipment.

#### MILLING MACHINES.

No. 4 Cincinnati plain horiz., h. p.

No. 4 Cincinnati h. power vertical.

No. 3 Brown & Sharpe, pl. cone type.

No. 3 Cincinnati vert., high power.

No. 4 Cincinnati h. p. univ.

No. 2 Cincinnati h. p. univ.

30"x14" Ingersoll, 4 heads.

36"x12" Ingersoll, 2 heads.

#### PLANERS.

150"x25", 4 heads, stand, belt drive.

120"x25" Sellers, motor drive.

60"x60"x16" Gray, 4 heads.

54"x54"x16" Sellers, 4 heads.

48"x48"x14" Patch, 4 heads.

42"x42"x10" Cleveland open s., 3 hds.

36"x36"x8" Sellers, 4 heads, belt d.

28"x28"x10" American, 1 head, b. d.

#### PIPE MACHINES AND BOLT CUTTERS.

4" Saunders, belt drive.

Little Giant No. 732, 1" capacity.

14" National bolt cutter.

24" to 10" Curtis & Curtis.

Jarecki 24", a. c. motor drive.

1" Landis, single lead screw.

12" Jarecki No. 15, belt drive.

8" Saunders pipe machine.

#### PUNCHES AND SHEARS.

No. 6 Quickwork rotary.

No. 4 H. & J. double, 48", t. a., c. m.

No. 2 H. & J. double angle.

Lenox rotary bevel, 8" capacity.

No. 6 H. & J. 60" thrt., a. c. motor.

Buffalo armor pl. "U" 25 comb.

No. 5 H. & J., 48" t., a. c. motor.

No. 4-A Quickwork, motor drive.

Morgan & W. gate shear, 9", 8" cap.

Pels type beam shear, 6" to 24" cap.

Badger State 9C., 24" t., 1/2" d. e.

Long & Allstatter No. 5, 24" t., s. e.

#### SHAPERS.

25" Smith & Mills b. g. crank.

16" Milwaukee b. g. crank.

24" Potter & Johnston universal.

24" Cincinnati, b. g.



## SECOND-HAND MACHINERY

**A. F. Strafer—Continued.**

### MISCELLANEOUS PLANT EQUIPMENT.

Air drills, Thor, \$20. to \$50.  
Air hammers, 2" & 6", \$15.  
Brake, tinmith's, 98".  
Gas engine, 15 h. p. Novo 2 c., new.  
Hammer, 3000 lb. Bell single frame.  
Hammer, 3000 lb. Bell double leg.  
Hammer, 600 lb. Erie, forging.  
Header, Ajax 14", all steel.

Jointer, 12" American.  
Rolls, 1"-20" Niles-B.-P., a. c. mtrs.  
Roll. Sellers, 8" cap., 7" drop end.  
Roll, 10" Southwark, 4" cap.  
Saw, No. 6 Nutter & B., a. c. motor.  
Saw table, universal, American.  
Surfacer, single, 30" American.  
Tapping attach., 1" Errington.

## FOR SALE BY

**The Strong, Carlisle & Hammond Co., Cleveland, O., Detroit, Mich.**

### ENGINE LATHES.

12"x 5' Hendey, c. r., q. c. g., with  
pan bed (4).  
12"x 6' Seneca Falls, c. r. and t. a.,  
with relieving att.  
14"x 6' LeBlond, l. c. g. and chuck.  
14"x 6' Hamilton.  
14"x 6' Monarch, c. r., standard.  
14"x 6' Prentice Bros., s. b. g., l. c.

g., with t. a., with 8" 4-jaw ind. ck.  
14"x 8' Monarch, c. r., stand. pattern.  
15"x 6' South Bend, c. r., complete.  
16"x 6' South Bend, c. r., complete.  
18"x 8' Prentice c. r., l. c. g., chuck.  
18"x 10' Star, 4-a. c., s. g., with 16"  
4-jaw ind. chuck.

### TURRET LATHES AND SCREW MACHINES.

No. 2-A W. & S. g. h. tur. lathes.  
No. 3-A W. & S. g. h. turret lathe.  
14" Acme screw mche., p. f. to tur.  
26" Gisholt heavy duty turret lathe.  
2"x 24" Jones & L. g. h. flat turret.  
No. 00 Brown & Sharpe auto., (5).  
No. 0 Brown & Sharpe auto. (2).  
No. 2 Brown & Sharpe auto. (2).  
No. 2 Warner & S. p. h. screw mchs.,  
a. c. & b. f., p. f. to turret. (3).  
1" Biggs, p. h., a. c. & b. f.

No. 4 W. & S., p. h., a. c. & b. f.  
No. 2 W. & S., p. h., a. c. and b. f. (4).  
No. 2 W. & S., p. h., a. c. and b. f.,  
with p. f. to turret (5).  
No. 4 W. & S., g. f. h., a. c. and  
b. f. (4).  
No. 4 W. & S., g. f. h., a. c. and b. f.  
with p. f. to turret (3).  
18" Libby, factory rebuilt.  
No. 2-G B. & S. automatics (3).  
No. 2 B. & S. turret forming (2).

### DRILLING MACHINES.

20" W. F. & John Barnes, stationary  
head, b. g. and p. f. (2).  
24" Baker heavy duty.  
4-spindle Leland-Gifford, h. s., b. b.,  
with p. f. to each spindle.  
6' arm Western radial, with tap. att.,  
arranged for motor drive.  
20" Superior, stationary hd., p. l. f.

20" W. F. & John Barnes, stationary  
head, p. l. f., (2).  
20" Hamilton, w. and l.  
12" Mechanics, friction driven.  
6-sp. 12" Leland-G., h. s., b. b. (6).  
12" 3-sp. Leland-G., h. s., b. b. (4).  
14" 3-sp. Leland-G., h. s., b. b. (3).  
14" 4-sp. Leland-G., h. s., b. b. (3).

### MILLING MACHINES.

No. 0 Bickett, hand, bench type (7).  
Toledo hand milling machines (2).  
No. 24 K. & T. vertical, arranged  
for motor drive.  
No. 2-B B. & S. plain, constant s. dr.

No. 14 Cincinnati old style univ.  
No. 14 Rockford plain, with div. hd.  
No. 24 Ohio plain b. g. complete.  
No. 1-V Brown & Sharpe plain.

### GRINDERS.

No. 10 B. & S. plain, (2).  
No. 6-A Bryant internal.  
No. 2 B. & S. surface.  
LaSalle combination pl. and surface.

No. 1 LeBlond cutter grinder.  
Type "DE" Hisey-Wolf internal.  
No. 11 B. & S. plain grinders, (5).  
Plain emery wh'l stand with column.

### SHAPERS AND PLANERS.

15" Flather crank shaper.

22"x 22" x 5' Putnam planers (2).

### METAL CUTTING TOOLS AND SQUARING SHEARS.

Higley cold saw.  
3" new Davis cutting-off machine.

30" Niagara foot power squar. shear.

### GEAR CUTTERS AND HOBBERERS.

26" & 36" No. 3 Brown & S. auto.  
No. 13 Brown & Sharpe auto.

No. 12 Barber-Colman hobbers.  
No. 12 B. & S., bevel, (2).

### HAMMERS.

Quickwork body hammer.

## SECOND-HAND MACHINERY

### FOR SALE BY

D. M. Osborne Machinery Co.,

P. O. Box 853, Station "H"

Cleveland, Ohio

#### AUTOCALL SYSTEM.

Model 16, 60-station Autocall System arranged for 110 volts, d. c., complete with 1660-D central station, relay, 23—4" gongs, 16—6" gongs, 11—8" gongs, and one whistle; all in first class condition; approximate new cost \$1000.00; will sell for less than half cost.

### FOR SALE BY

J. L. Lucas & Son, Inc.,

3 Fox Street, Bridgeport, Conn.

Lucas List of Rebuilt Machinery.

#### BORING MILLS.

24" Bullard rapid production vertical lathes, (4), each	\$1650.
36" Bullard two-head vertical boring mill	850.
42" Bullard vertical boring mill, single head	950.
30" Bullard vertical boring mills, turret heads, (2), each	500.
No. 1 Barnes horizontal boring mill	450.
No. 1 Rockford boring mill	475.
No. 1 Beaman & Smith boring mill	400.
Binsse horizontal boring mill, table 30x40	1250.

#### DIE SINKERS.

Keller automatic die sinkers, type E3, (3), price each	\$ 650.
No. 2 Pratt & Whitney, square base, (2), each	600.
No. 4 Thurston die miller	150.

#### DRILLING MACHINES.

24" Snyder	\$ 300.	No. 13 Pratt & Whitney 12 and	
24" Prentice	250.	20 spindles, (2), each	\$ 750.
24" G. & E. two-spindle	250.	Weston 12-spindle	325.
42" Prentice	400.	No. 22 Natco	800.
Natco semi-auto, 6-sp. horiz.	450.	No. 37 Natco	850.
21" Rockford 4-spindle gang,		No. 25 Natco	475.
(4), each	600.	No. 16 Natco	900.

#### RADIAL DRILLS.

3' Fosdick radial	\$ 575.	3' Carleton radials, (2), each	\$ 375.
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#### FURNACES.

No. 7 American gas lead hardening furnace	\$ 75.
No. 5 American gas oven furnaces (We have two of these) each	150.
Billow oven furnaces, muffle type, (6), each	125.

#### GRINDERS.

20" Diamond wet grinder	\$ 60.
14" Pratt & Whitney vertical, with rotary	950.
No. 2 Brown & Sharpe and Reid, with magnetic chucks, each	375.
Production hand surface grinders, (5), each	100.
No. 1 Brown & Sharpe full universal, 90% complete	500.
No. 2 Brown & Sharpe universal grinder	800.
Wilmarth & Morman grinder, with magnetic chuck	375.

#### CYLINDRICAL GRINDERS.

10x50 Norton	\$ 575.	12x24 Modern self-contained,	
10x80 Norton	1250.	(2), each	\$ 675.
No. 11 Brown & Sharpe plain	450.	No. 23 Landis	450.

#### DISC GRINDERS.

No. 6 Besly, adjustable discs	\$ 400.	No. 6 Diamond, single disc,	
No. 10 Besly, double end	150.	(3), each	\$ 75.
No. 14 Gardner disc	425.	No. 2 Gardner disc grinder	250.

#### GRINDERS—MISCELLANEOUS.

No. 60 Heald cylinder, rebuilt,		No. 162 Wells bench cutter &	
(7), each	\$ 900.	reamer	\$ 65.
No. 1 Cincinnati tool & cutter	375.	No. 1 Landis internal, (4), ea	600.
No. 34 Van Norman internal	300.	No. 70 Heald internal, (2), ea	700.
No. 8 Bryant chucking grinder	250.	No. 1 Bridgeport	125.

## SECOND-HAND MACHINERY

### FOR SALE BY

#### Marr-Galbreath Machinery Co.,

Angle & bar bender, No. 9 Buffalo.  
 Bender & straightener, No. 4 H. & J.  
 Bolt cutters, Acme 6", Landis 2 1/2".  
 Bolt cutter, 2" Acme, sgl. 2 1/2" head.  
 Bolt cutter, 2" Acme, dbl., Landis hd.  
 Bolt cutter, 1 1/2" Acme, triple head.  
 Boring mills, Rockford, 2" & 3" bar.  
 Boring mill, No. 21 Lucas hor., 3" bar.  
 Boring mill, vertical, 72" Betts.  
 Boring mill, 40" sgl. hd., light \$175.  
 Boring mill, vertical 84", 2 heads,  
 220 v., d. c. motor.  
 Brake or press, 10" Robinson, toggle.  
 Bulldozers, Nos. 24, 6 & 30 W.-W.  
 Compressor, Curtis 2 1/2 x 3".  
 Compressor, 4 1/2 x 4 1/2" Curtis.  
 Compressor, 7" x 6", Ind. Rand.  
 Compressor, 8" x 8", belted, tank.  
 Compressor, 12" x 14" Chicago, 275  
 cu. ft., belt.  
 Compressor, 14" x 10" x 12", Ingersoll.  
 Compressor, 1300, 885, 599 cu. ft., m. d.  
 Drills, radial, 3" Bickford, t. a.  
 Drills, radial, 3" Prentice; 3" Fosdick.  
 Drill, radial, 30" Hamilton, t. a.  
 Drills, radial, 5" Baush, \$500.  
 Drills, 35" Hofer; 24" Aurora, s. h.  
 Drill, 13" Washburn sensitive.  
 Drills, 21 and 20" Barnes, hand and  
 lever feed.  
 Drill, 30" Barnes, sliding hd., b. g.  
 Drill, 20" Rockford, sl. hd., q. c. g.  
 Drill, 22" American, hand & lever fd.  
 Drills, 22" Aurora upright (2).  
 Drills, No. 2 Colburn, mfg. type, (4).  
 Drill, Allen, 20" sensitive, 4-spd.  
 Drill, heavy duty, 24" Foote-Burt.  
 Exhausters, No. 8 Buffalo.  
 Fan, ventilating, Amer., 47" wheel.  
 Forging machines, 1 1/2, 2, 2 1/2 & 3".  
 Gear hobber, No. 12 Barber-Colman.  
 Grinder, No. 60 Heald internal.  
 Grinder, Gardner, 16" disc & ring w.  
 Grinder, Diamond dbl. end, 14" wh.  
 Grinder No. 1 Besley 12" disc, swing  
 and angle table.  
 Grinder, disc, No. 10 Besley, 18" wh.  
 Hack saw, Racine high sp., 6x6".  
 Hack saw, No. 5 Marvel, cap. 6x6".  
 Hammer, 40 lb. Yeakley, belted.  
 Hammers, 80, 100 & 125 lb. Bradley.  
 Hammer, st. drop, 1500 lb. Erie, new.  
 Hot saw & burring machine, Acme.  
 Keyseater, No. 1 Davis, cap. 1" key.  
 Lathe, gap, 36/60" x 12/20" Harringt'n.  
 Lathe, 42" x 32" Am., grd. hd., m. d.  
 Lathe, 36" x 18" American, g. h., t. a.,  
 for constant speed m. d.  
 Lathe, 32" x 14", Draper, 2 1/2" h. s.  
 Lathe, 30" x 14" L. & S., q. c. g., t. a.  
 Lathe, 26" x 14", Niles-Bement-Pond,  
 q. c. g., h. s.  
 Lathes, 27" x 10" Lodge & S., q. c. g.

#### 58 Water St., Pittsburgh, Pa.

Lathe, 18" x 10" Porter, s. b. g., c. r.  
 Lathe, 18" x 8 1/2" Hendey, pl. change.  
 Lathes, 18" x 10" L. & S. & LeBlond.  
 Lathe, 18" x 8" Am., q. c. g., tap. att.  
 Lathe, 16" x 8" Bradford, pl. change.  
 Lathe, 14" x 6" Monarch, q. c. g., t. a.  
 Lathe, speed, 11" x 4" Prentiss, t-rest.  
 Miller, bench, No. 1 Burke, hand.  
 Miller, No. 34 Fox, hand, 24" x 6" x 14 1/2".  
 Miller, No. 0 1/2 Cin. pl., 18" x 6" x 15".  
 Miller, No. 3 H LeBlond, pl. ind. hd.  
 Miller, No. 2 Kempsmith universal.  
 Miller, vertical, No. 5-C Becker,  
 rotary table.  
 Miller, vertical, No. 4, Becker,  
 rotary table.  
 Miller, vertical, No. 2 1/2 Becker,  
 motor drive.  
 Miller, Hendey Lincoln with count.  
 Miller, Knight duplex, tbl. 8 1/2" x 32".  
 Nut tapper, 1 1/2" Acme 6-sp. semi-auto.  
 Pipe mchs., 4" Oster, belt drive.  
 Pipe machine, 8" Saunders.  
 Planer, 60x60" x 12" Pond, 3 hds., m. d.  
 Planer, 42" x 42" x 12" Betts, 1 head.  
 Planer, 42" x 36" x 20" Cin'ti, 4 heads.  
 Planer, 30" x 30" x 8" Niles, hy., 1 hd.  
 Planer, 26" x 26" x 8" Niles, 1 head.  
 Planer, 24" x 24" x 6" Gale, 1 head.  
 Planer, 24" x 24" x 5" New H., 1 hd.  
 Press, No. 27 Bliss, horning, b. g.  
 Press, No. 56 Toledo, pl. trim., 3 1/2" str.  
 Press, No. 11 Perkins, pl. trim., 4" str.  
 Press, No. 82 Consolidated horning,  
 1000 lb.  
 Press, C-5 Ferracute, o. b. i., plain.  
 Press, 83 Bliss, 10" stroke, geared.  
 Press, 65-N Bliss (cam), plain.  
 Press, tie rod, S. S., dbl. cr., 37" bet.  
 hsgs., 2" str. 14000 lb. belt or mtr.  
 Punch, Cleveland 7" tht. cap. 3 1/2" x 3 1/2".  
 Punch, 15" thts., dbl. 3 1/2" x 3 1/2", arch. jaws  
 Punch & shear, H. & J., 72" tht.,  
 cap. 1 1/2" x 1 1/2", motor drive.  
 Riveter, 1/2" Shuster, style A.  
 Rivet hammers, 3-A, 4-A, 5-A, hi. sp.  
 Rivet spinner, 3/16" Grant rotary.  
 Rolls, bending, 20" x 1/2" H. & J., d. e.,  
 m. d.  
 Saw, No. 11 1/2 Higley, cap. 4" blade.  
 Saw, Gorton, size 2B internal tooth.  
 Screw machines, No. 1 Warner & S.  
 Shaper, 15" Kelly, sgl. grd. crank.  
 Shaper, 21" American, b. g., crank.  
 Shaper, 28" Hendey, pillar type.  
 Shears, Quickwork No. 6, m. d.  
 Shear, rotary, 1/2" Lennox, 8" gap.  
 Shear, splitting, No. 26 Beloit, cap.  
 1/2", m. d.  
 Shear, squaring, 42" Niagara, ft. p.w.  
 Slotters, 16" & 18" Bement-Miles.  
 Testing mchs., 100,000, 200,000 lbs.  
 Turret lathe, No. 1 Bardons & Oliver.

We Buy, Sell and Exchange.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Syracuse Supply Company, 314 W. Fayette St., Syracuse, N. Y.**

Guaranteed New Machines in original crates at prices below list:

Crucible, FD-104 Hoskins.	Lathe, 16"x6" Monarch.
Drills, 21" Canedy-Otto (2).	Miller, 42" type "B" Briggs.
Drills, 20" Buffalo (4).	Pipe machine, No. 70 Forbes.
Grinder, Churchill internal.	Screw mchs., No. 4 W. & S., g. f. h., (3).
Lathe, 14"x6" Hamilton.	Slotter, No. 3 Rhodes.
Lathe, 16"x8" Hamilton.	Straightener, No. 24 Corey.
Lathe, 10"x5" Monarch.	Tilted turret, No. 4 Wood.
Lathe, 14"x6" Monarch.	Turret lathe, No. 4 W. & S. univ.
Lathe, 14"x8" Monarch.	

#### Exceptional values in Used Tools:

Automatic screw mch., No. 52 Acme.	Lathe, 28"x12" Draper.
Automatic screw mch., No. 515 Acme.	Miller, No. 5 Becker vertical.
Drill press, 25" W. F. & John Barnes.	Press, No. 69N Bliss.
Drill press, 26" Barnes, sliding hd.	Punch press, No. 18 Bliss.
Drill press, 4-spindle Reed sensitive.	Radial, 4' Cin'ti-Bickford, GB-BD.
Drill press, 3-spindle Reed sensitive.	Shaper, 16" Gould & Eberhardt.
Drill press, 2-spindle Reed sensitive.	Thread miller, Lees-Bradner.
Grinder, No. 0 Wilmarth & Morman.	Tilted turret, No. 6 Wood.
Lathes, 14"x 6" American (2).	Turret lathes, No. 4 Foster (2).
Lathe, 14"x 6" Monarch.	Turret lathe, No. 2 Warner & S.,
Lathe, 16"x 6" Hendey, rebuilt.	hollow hex.
Lathe, 16"x 8" American, geared	Turret lathe, 24"x26 Pratt & Whitney.
head, rebuilt.	Turret lathe, No. 24 s. g. Garvin.
Lathe, 16"x 8" Monarch.	Turret lathes, 3x36 Jones & L. (3).
Lathe, 18"x10" American.	Turret lathe, 2x24 Jones & Lamson.

### FOR SALE BY

**Fitzsimmons & Cole Machinery Company**

**1208 House Building, Pittsburgh, Pa.**

Air compressor, 10"x12", 164 cu. ft.	Lathe, 50"x34" Pittsburgh.
Bending roll, angle, 4"x4"x1/2".	Lathe, axle, No. 3 Niles.
Bending rolls, W. & R. 12"x7/16".	Miller, No. 3-A Garvin plain.
Bending rolls, No. 5 H. & J. 12"x1/2".	Miller, Ingersoll slab, 84" drum type.
Bending rolls, 6"x1/2".	Pipe machines, 2" to 12".
Bolt cutters, 1 1/2" to 4" Landis.	Planers, 36" to 12".
Borer, car wheel, 48" Pond.	Planer, rotary, 48" Newton.
Boring mill, 30" Bullard turret.	Planer, plate, Cleveland 23"x1".
Boring mill, 36" Niles.	Press, No. 20 Bliss, o. b. i., 2" str.
Boring mill, 42" King, m. d.	Press, No. 37 Swain, o. b. i., 3" str.
Boring mill, 52" King, m. d.	Press, No. 37 1/2 Bliss straight side,
Boring mill, 60" Betts, 2 hds., m. d.	6" stroke.
Boring mill, 84" Bullard.	Punch & shear, Cinti, 1" thru 1 1/2".
Boring mill, 144" Pond, 2 heads.	Punch & shear, No. "A" L. & A., 2"
Drill press, 20" Barnes Camel Bk.	thru 1 1/2".
Drill presses, 24" to 36".	Punch & shr., H. & J., 1 1/2" thru 1 1/2".
Drill press, No. 25 Foote-Burt.	Punch, hor., Cleveland, 1" thru 1 1/2".
Drill press, 1-D Colburn.	Riveter, 70-ton Hanna, 18" reach.
Drill, radial, 3' Cincinnati-Bickford.	Sand blast, MacLeod, 36"x36".
Drill, radial, 4' Prentice.	Saw, 18" Higley, cold.
Drill, radial, 5' Reed-Prentice, s.p.d.	Shaper, 24" Gould & F., bk. grd.
Engine oil, 50 h. p. International.	Shear, angle, 8"x6"x1 1/2" L. & A.
Flanger, McCabe, 1/2" capacity.	Shear, guillotine, 24" United.
Grinder, Landis crankshaft, 16"x48".	Shear, plate, 9"x1 1/2" Morgan.
Grinder, Landis crankshaft, 16"x68".	Straightener, 30" Waterbury-F. 1/2".
Grinder, Landis plain, 12"x52".	Testing machine, 100,000 lb. Olsen.
Hammer, 200 lb. Bradley upright	Turret lathe, No. 2-A Warner & S.
helve.	Turret lathe, No. 3-A Warner & S.
Hammers, 600 lb. to 6000 lb.	4 1/2" h. s.
Hammer, 800 lb. Merrill board drop.	Turret lathe, No. 4 W. & S. univ.
Lathe, 16"x 6" South Bend.	Turret lathe, 24"x6" Gisholt.
Lathe, 27"x10" Lodge & S., q. c. g.	Welder, butt, Thompson, cap. 1 1/2" rd.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Chas. Mollitor Machinery Co., 118-124 S. Clinton St., Chicago, Ill.**

#### LATHES.

- |   |                                       |
|---|---------------------------------------|
| 36"x14' American, q. c. g.              | 18"x 8' Hendey, taper, draw-c. att.   |
| 33"x10' LeBlond, q. c. g., hvy.         | 16"x 8' Hendey, taper attach.         |
| 30"x14' LeBlond, q. c. g., heavy.       | 16"x 8' Pratt & Whitney, q. c. g.,    |
| 24"x16' LeBlond, plain.                 | taper, relieving attachment.          |
| 24"x12' Reed Prentiss, geared head.     | 16"x 6' Bradford, q. c. g.            |
| 26"x10' Niles, q. c. g.                 | 13"x11' Sebastian.                    |
| 24"x12' South Bend, taper att.          | 12"x 5' Pratt-W., taper draw collets. |
| 24"x10' Lodge & Shipley, grd. hd.       | 10"x 4' Seneca Falls, taper attach.   |
| 16"x 8' Greaves Klusman, q. c. g., (2). | 10 Cataract, Pratt & Whitney, Rivett, |
| 18"x 8' Sidney, q. c. g.                | Elgin bench lathes.                   |

#### MILLERS.

- |                                      |                                    |
|--------------------------------------|------------------------------------|
| 24" & 34" Bullard.                   | No. 3 LeBlond plain.               |
| No. 3 LeBlond universal.             | No. 3 Becker vertical.             |
| Nos. 1 & 2 Kempsmith universal.      | No. 4H Becker vertical (2).        |
| No. 1 Kempsmith plain, with vertical | Gooley & Edlund, production.       |
| attachment.                          | 2 1/2" Twin spline miller, P. & W. |
| National Transit Co. plain.          | Bristol, Whitney, U. S. hand.      |

#### RADIALS AND DRILL PRESSES.

- |                                      |   |
|--------------------------------------|---|
| 36" American.                        | 4 spdl. Gooley & Edlund, 1" cap.          |
| 36" Mueller Tool Co.                 | 1, 2, 4, 6 sp. Allen, Aveys, 1" cap. (8). |
| 30" Dreeses, Mueller.                | 1, 2, 4 spindle Leland Gifford, 1" cap.   |
| 24" & 26" Prentiss, Cincinnati, etc. | 2, 4 spdl. Leland Gifford, 1" cap.        |
| 2, 3 spdl. 24" Aveys, 1" cap. (3).   | Large variety 14", 16", 20" drills.       |

#### GRINDERS.

- |                                  |                                     |
|----------------------------------|-------------------------------------|
| Nos. 2 & 3 Brown & Sharpe univ.  | Nos. 2 & 3 La Salle.                |
| No. 3 B. & S. universal.         | Fitchburg, Landis, Greenfield.      |
| No. 1 B. & S. cylindrical.       | 18", 26", 40" disc, Gardner, Bealy. |
| No. 2 Wilmarth & Morman surface. | No. 23 Brown & Sharpe cylinder.     |
| No. 11 Brown & Sharpe.           | Nos. 60 & 65 Heald cylinder.        |

#### SHAPERS AND BOLT CUTTERS.

- |                        |                                  |
|------------------------|----------------------------------|
| 18" Gould & Eberhardt. | 1 1/2" Landis bolt cutter, 2-sp. |
| 20" Milwaukee.         | 2" National Acme.                |
| 18" Hollingworth.      | 1" and 1 1/2" Geometric.         |
| 17" Smith & Mills.     | 4" Merrill pipe machine.         |
| 1" Landis bolt cutter. | 4"-12" Pipe threader.            |

#### SCREW MACHINES AND TURRET LATHES.

- |                                       |   |
|---------------------------------------|---|
| Jones & Lamson dbl., sgl. spindle.    | 1" & 1 1/2" cap. Acme, b. g., frict. h. |
| Nos. 0, 1, 2 B. & S. semi-auto.       | 3", 1 1/2", 2", 2 1/2" Cleveland auto.  |
| No. 6 Foster, power long. & cross fd. | Nos. 0 & 00 B. & S. automatics.         |
| Nos. 0, 1, 2, 3 Foster, Bardons &     | 1" Gridley 4-sp. automatic.             |
| Oliver, Garvin, W. S., P. & W.        |   |

#### PUNCH PRESSES AND SHEARS.

- |                                     |  |
|-------------------------------------|--|
| No. 6 Bliss, Stiles pattern.        | 26" Bliss arch presses.                  |
| No. 5 Niagara inclinable.           | 32" Stoll arch presses.                  |
| No. 4 Niagara inclinable.           | No. 3 Black & Johnson.                   |
| No. 3 Long & Allstatler inclinable. | 10" power squ. shear, 18 ga.             |
| No. 3 American inclinable.          | 62" all steel power squ. shear, 10 ga.   |
| No. 3 Loshbough-Jordan (2).         | 52" Niagara power squ. shear, 1 1/2" ga. |
| No. 2 Loshbough.                    | 39" Niagara pwr. sq. shr., 3/16" ga.     |

#### GEAR CUTTERS.

- |                           |                                   |
|---------------------------|-----------------------------------|
| 26" No. 3 Brown & Sharpe. | No. 1 & No. 1 1/2 automatic, (4). |
| Waltham automatic, (4).   | No. 10 Bilton gear hobbers, (4).  |

#### MISCELLANEOUS.

- |  |                                   |
|--|-----------------------------------|
| Beaders, power.  | Rivet spinners. Grant.            |
| Corrugating machine, steel, 7"x36",  | Shears, circle and slitting.      |
| rollers 4"x10'.  | Spot welders. Toledo and Thomson. |
| Hammer, 60 lb. Bradley.  | Tapping machines, all sizes.      |
| Drill & lathe chucks, Stromberg periodograph, time clocks, time stamps, etc. |                                   |

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## SECOND-HAND MACHINERY

### FOR SALE BY

#### Bennett Machinery Co.,

Boring mill, 51" Bridgeport, 2 hds.  
Grinder, univ. cutter and reamer,  
Draper & Hall.  
Lathe, 18"x 8" Mueller, q. c. g., t. a.  
Lathe, 24"x12" Johnson, geared hd.,  
q. c., t. a.

#### 30 Church St., New York City

Lathe, 24"x14" Schumacher & Boye.  
Pipe machine, 8" E. C. & B.  
Pipe machine, 3" Jarecki No. 7B.  
Planer, 54"x12" Pond, 4 heads.  
Planer, plate, 18" Niles.  
Shaper, 20" Walcott heavy duty, 95%.

### FOR SALE BY

**Tuber, Velick & Co., Inc., - 528-630 W. Lake St., Chicago, Ill.**

**Telephones: Monroe 4199-6813. No Branches**

#### PUNCH PRESSES.

No. 3 Walsh.  
No. 4 American Can.  
No. 7 Beatty, cap. 1 1/2" in 1".  
No. 15 Torris Wold.  
Perkins punch presses, 1/2" str. (20).

Nos. 13 & 15 single end punches.  
Long & Allstatter horn punch, capacity 1 1/2".  
No. 17 Williams-White double end punch & shear.

#### DRILL PRESSES.

14" Excelsior.  
20" b. g., p. f., new, \$130.  
20" & 28" Weigel.  
28" Hoefler.

30" Reed-Prentice.  
Demco high-speed drills.  
Bench type drills.

#### MILLING MACHINES.

No. 2 LeBlond.  
No. 2 Cincinnati vertical.  
No. 2 Cincinnati universal.

No. 3 Kempsmith.  
A number of hand millers.

#### LATHES.

11"x 5' Sterling.  
15"x 8' Sidney, q. c.  
16"x 6' Sidney, q. c., (2).  
16"x 6' Monarch q. c.  
16"x 8' Canedy-Otto.  
16"x 6' Hendey, q. c., taper att.  
16"x 8' South Bend, q. c.  
17"x 8' Sidney, q. c.

18"x 8' Chard.  
19"x10' Sidney, q. c., (2).  
20"x 8' Lodge & Shipley, geared head, s. p. drive.  
24"x10' Canadian, q. c., d. b. g., (3).  
25"x10' Sidney.  
Dalton Six.

#### PLANERS.

24"x24"x6' Pond.  
24"x24"x 8' Putnam.

30"x30"x 8' Fitchburg.  
36"x36"x 7' Flathead 2 heads.

#### SHAPERS.

16" Smith & Mills.  
16" Ohio.  
16" Whipp, b. g.

24" Rockford.  
24" Kelly.

#### SCREW MACHINES.

Millholland.

No. 2 Smith, hand.

#### GRINDERS.

No. 2 Manhattan surface.  
Gardner No. 2 & No. 6 disc grinders.  
No. 14 Besly, disc.

10x36 Thompson, new.  
Emery grinders, \$2 and up.

#### WOOD-WORKING MACHINERY.

Band saws, 36" Famous, new, (10).  
Boring mills, Andrew, (3).  
Glue jointer, Falls.  
Jointers, 4" D. C. Walcott.

Planer, 30" Berlin.  
Saw table and jointer combined, portable.  
Swing saws, Porter, (4).

#### MISCELLANEOUS.

Buffers, U. S. and Westinghouse, 5 h. p., b. b.  
Cold saw, No. 20 Lea-Simplex.  
Hack saws.  
Keyseaters, Davis.  
Lift trucks, Barrett, 1 ton cap.  
Motors, a. c. and d. c.

Paper cutter, Chandler & Price.  
Punch & shear, No. C Cleveland.  
Radial drill, 30" Canedy-Otto.  
Radial drill, 30" Cin'ti Bickford.  
Time clocks, International.  
Turret lathe, Gisholt.  
Woodworking machines.

Leather belting. Pulleys, shafting and hangers.

## SECOND-HAND MACHINERY

### FOR SALE BY

**McDonald Machinery Co., 1531-33 N. Broadway, St. Louis, Mo.**

Cut-off mchs., Modern 1", Davis 6".  
 Drill, Detroit 5-sp. horiz.  
 Drill, Rockford horiz. boring & drill.  
 Drills, 4-sp. 24" gang, 1, 2, 3 and 6 spindle, h. s., b. b.  
 Drills, 5' Americ, 3' C.-O. rad.  
 Drill, radial, 2-3' American, q. c.  
 Furnace, Holcroft Electric annealing, 92 k. w.  
 Gear shaper, 36" Fellows.  
 Grinder, Persons-Arter automatic surfacing.  
 Grinders, 25 Heald piston ring.  
 Grinder, Landis 10x36.  
 Grinder, Landis 12x48, Fitchburg cyl.  
 Lathes, Hamilton 27x14, Sidney 27x10, Bridgeford 27x9, Advance 18x8, q. c.  
 Lathe, Star 14x6, mtr. drive, collets.  
 Milling machines, Hendey No. 2 G universal, Ohio No. 20.  
 Milling mch., Becker "SD" vert., rotary table, 17800 lbs.  
 Milling mch., LeBlond No. 4 plain.  
 Planers, 36"x36"x23' Sellers, 2 heads; 42"x42"x16' Pond, 2 heads.  
 Presses, Ferracute No. 2 str. bck., Swaine No. 40 arch.  
 Punches, H. & J. No. 0, 14" thrt., 4" in 4"; Felber 1" in 1" punch & slit shr.; Scully 20" thrt., 1" in 1".  
 Shapers, 26" automatic open side, 16" Milwaukee, 7" Rhodes.  
 Shears, 60" thrt. rotary slitting (2).  
 Thread miller, Lees-Bradner No. 4.  
 Welder, Spot-W., Toledo, 20 k. w.  
 Welder, Butt-Nat'l, Federal, 7" rds.

### FOR SALE BY

**Wm. C. Johnson & Sons Machinery Co., 1211-1223 N. 12th St., St. Louis, Mo.**

#### MILLERS.

No. 2 Kemp Smith.  
 No. 2 Brown & Sharpe plain.  
 No. 4 Cincinnati plain, single pulley.  
 No. 5-B Brown & Sharpe.  
 No. 33 Kemp Smith.  
 No. 2 Rockford full universal.  
 No. 2 Knight vertical.  
 Nos. 0 and 3 Burke bench.  
 Whitney hand miller.

#### DRILLING MACHINES.

3' arm Mueller, radial, s. b. drive.  
 5' arm Prentice radial.  
 3 1/2' arm post drill.  
 34" sliding head.  
 24" Aurora, sliding head.  
 20" Barnes.

#### GRINDERS.

No. 2 Cincinnati universal.  
 8" Heald rotary, with magnetic ck.  
 10"x36" Thompson universal.  
 No. 6 St. Louis.  
 30"x84" Diamond face grinder.  
 12"x42" Landis universal.  
 Yankee twist drill.

#### PLANERS.

24"x24"x 6' Lodge & Davis.  
 32"x30"x 7' Whitcomb.  
 36"x36"x10' Flather.  
 60" open-side Detrick & H., 3 heads.

#### SHAPERS.

Smith & Mills, all sizes.  
 15" Hendey, arranged for motor.  
 20" Kelly.  
 16" Flather, 4 speeds.  
 16" Cincinnati.

#### LATHES.

9"x12" Sundstrand.  
 14"x 6" Monarch, q. c.  
 14"x 6" Sidney, q. c.  
 20"x 9" Cisco, q. c.  
 21"x 8" Sidney, q. c.  
 24"x12" Advance.  
 26"x13' Putnam, q. c., ar. for motor.  
 26"x16" Niles, plain change.  
 28"x 8" Greaves & Klusman, q. c.  
 30"x15" American, q. c.  
 32"x20" Draper, triple geared.  
 36"x18" Prentice Bros., t. a.  
 20" Pit lathe.

#### MISCELLANEOUS.

Boring machine, horizontal, No. 2  
 Pawling & Harnischfeger.  
 Boring mill, No. 1 Hinsse horiz.  
 Broacher, No. 1 LaPointe.  
 Bulldozer, 75-ton Lourie hydraulic.  
 Engines, Corliss, 75 to 200 h. p.  
 Magnetic pulley, 24"x26".  
 Press, portable, hydraulic.  
 Punch, No. 14 Williams-White, dbl.  
 Punch, No. 5 Long & Allst., 5" thrt.  
 Punch, No. 7 Long & Allst., 4" thrt.  
 Riveter, 24" Shepard.  
 Screw machine, No. 6 Woods.  
 Sheet metal cutter, No. 1 Gray.  
 Shear, squaring, 10' Ohl, 3/16 cap.  
 Tilted turret lathes, Wood, (3).  
 Turret, 28" Gisholt, latest.

## SECOND-HAND MACHINERY

### FOR SALE BY

**D. E. Rowlingson, - - - - - Box 265, Utica, N. Y.**

Drills, Burke bench 10" & 12"; drill press 20", new.  
Hack saw, small, good as new.  
Lathe, 18"x8" Hendey, good as new, 3 chucks.....\$250.  
Punch press, gear driven, on wood stand.....10.

### FOR SALE BY

**A. M. Stoehr Machinery Co.,**

**560 W. Adams St., Chicago, Ill.**

Blue printing and drying machine.  
Bolt cutter, 3-spd. Acme, 1" cap.  
Boring mills, 42" Baush, 54 & 60"  
Niles, all have 2 heads, and others.  
Compressors; 6x4 Gardner, motor  
drive; 3x4 Ingersoll-Rand, belt dr.  
Drill presses, 2 & 4 spindle Henry  
& Wright; 4-spindle Barnes, b. g.,  
p. l., 14", and others.  
Gear hobbors, cutters: 12" Cincinnati;  
48" & 60" Gould & E., 36" Fellows  
gear shaper, and others.  
Grinders, Heald piston ring (4);  
No. 3 LaSalle plain and surface;  
3x18" Norton, and others.  
Hammer, 500 lb. Beaudry, & others.  
Lathes, 22" to 44" McCabe; 14x6  
Rockford, q. c. g., late type; 18x8  
Barnes, heavy duty; 15 & 24 spin-  
ning, and others to 60".  
Oil extractors, centrifugal, (8).  
Pipe machines, 2" & 6" Jarecki.

Milling mchs., No. 25 Becker plain;  
No. 0 Bristol hand; No. 0 Rockford  
plain; No. 2 Van Norman duplex;  
No. 3 Thurston dieing, and others.  
Punch & shears, No. 4 L. & A., d. e.,  
4" thru 4"; No. 14 W., d. e., 15"  
throat, and others.  
Punch presses, No. 16 Bliss horning;  
Nos. 18, 19 and 20 Bliss; No. 126  
Ams; No. 10 Torris Wold, o. b. i.;  
Nos. 48 & 50 Crosby; No. 69 Stoll  
s. s.; No. 1 L. & A., 4" cap., will  
punch 1 1/2 thru 1", and others.  
Riveters, No. 5-A High Speed.  
Saws, 9x9 Sterling high speed; 12x12  
Racine high speed, and others.  
Screw machines, Nos. 2 & 3 Foster  
(12); Nos. 52 & 53 Acme, others  
plain and automatic.  
Shears, Pittsburgh alligator, 1".  
Welders, both spot and butt.  
Wire strait'g mche., 3/16" Shuster.

### FOR SALE BY

**Brown Machinery Co.,**

**2323 N. 9th St., St. Louis, Mo.**

Boring, drilling & milling machine, No. 10 Beaman-Smith Co. horiz.,  
34" bar, splendid condition. Price.....\$1500.  
Die sinking machine, No. 5 Jackson. Price.....500.  
Drill & tapper, Barnes 26", all geared, good condition. Price.....300.  
Drill, Baush No. 3 multiple, cap. 30 spds., rectangular hd. 20x40". Price 1500.  
Grinder, No. 14 Gardner, b. b., disk, dry, 20" disks, good cond. Price 400.  
Grinder, No. 6 Besly two-spindle disk, 20" disks. Price 350.  
Grinders, three No. 2 Gardner single spindle, double disk, with universal  
tables; good condition. Price, each.....175.  
Grinder, LaSalle automatic surface, good condition. Price.....275.  
Grinder, No. 12 B. & S. 8x36" pl., for wet grinding; good condition. Price 450.  
Grinder, No. 1 Brown & Sharpe universal, 10x24; good condition. Price 375.  
Grinder, No. 14 Besly single spindle ring wheel. Price.....400.  
Hoist, new Flory No. 14, 8x10" d. c., d. d. with boiler; A. S. M. E. for  
125 lbs. New. Special price.....1750.  
Lathe, 18"x 8" Lodge & S., q. c. g., d. b. g.; good condition. Price.....475.  
Lathe, 16"x 9" Lehmann, d. b. g., q. c. g.; good condition. Price.....475.  
Lathe, 26"x14" Hamilton, q. c. g., d. b. g.; good condition. Price.....1200.  
Miller, No. 2 Cincinnati b. g. plain, 28x10x19; good condition. Price.....500.  
Miller, No. 1B Fox, hand & pwr. fd., 18x6x14; new, never used. Price.....400.  
Planer, 54"x54"x12" Pond, 4 heads; good condition. Price.....2500.  
Polishing & buffing machines, five New Britain drop head, good con-  
dition. Price, each.....50.  
Punch & Stake riveter, No. 3 Hilles & Jones 60" throat, rapid action;  
cap. full depth throat 4" in 7/16"; 16,000 lbs; two stakes. Price.....1500.  
Shear, Niagara 8', 18 ga., foot power, square, splendid condition. Price 275.  
Shear, Marshalltown No. 134 rotary splitting, cap. 4" plate; 4' throat.  
Arranged for motor drive. Like new. Price.....750.



## SECOND-HAND MACHINERY

### FOR SALE BY

**Jones Machine Tool Co.,**

**528-532 E. Front St., Cincinnati, O.**

#### LATHES.

- |                                    |                                   |
|------------------------------------|-----------------------------------|
| 14"x 6' Hendey, tool room, (2).    | 18"x10' Lodge & Shipley, grd. hd. |
| 14"x 6' Bradford, quick change.    | 20"x12' Greaves Klusman, q. c.    |
| 14"x 6' Monarch, qck. chg., s. p., | 30"x12' H. S. & Gamble, q. c.     |
| geared head, (2).                  | 30"x16' Reed, l. c., cone drive.  |
| 16"x 6' Lodge & Shipley, qck. chg. | 48"x24' Niles, triple geared.     |

#### MILLERS.

- |                               |                              |
|-------------------------------|------------------------------|
| No. 2 Hendey universal.       | No. 3B—Brown & Sharpe plain. |
| No. 1½ Brown & Sharpe, plain. | No. 2 Kempsmith universal.   |

#### PLANERS.

- |                       |                                  |
|-----------------------|----------------------------------|
| 30"x12' Gray.         | 24"x 6' Powell.                  |
| 30"x 8' Gray, 1 head. | 42"x36"x26' Cincinnati, 2 heads. |

#### PRESSES.

- |                           |                                    |
|---------------------------|------------------------------------|
| No. 2 Sidney.             | No. 6 Whiting punch.               |
| Nos. 4 and 5 Niagara.     | No. 8 Long & Allstatter punch.     |
| No. 2 Robinson, o. b.     | No. 75 Consolidated, b. g.         |
| No. 6 Toledo, o. b. inc.  | No. 20 Bliss, o. b. inc., (5).     |
| No. 4 Stiles b. g. punch. | Horning presses, Toledo and Bliss. |

#### SHAPERS.

- |                                     |                                  |
|-------------------------------------|----------------------------------|
| 16" Stockbridge, b. g. crank.       | 21" American, back geared crank. |
| 21" Smith & Mills b. g. crank, (2). | 24" Kelly back geared crank.     |

#### MISCELLANEOUS.

- |                                       |                                    |
|---------------------------------------|------------------------------------|
| Bolt cutters, 4" Acme.                | Grinder, surface, No. 2 Brown & S. |
| Bulldozer, No. 1 Williams & White.    | Grinder, abrasive surface.         |
| Drill presses, 24" Sibley & Ware (4). | Grinder, Brown & S., planer type.  |
| Gear cutter, 48" Brown & Sharpe.      | Square shears, 516A Toledo, power, |
| Gear hobber, No. 12 Barber-Colman.    | 14 gauge, 15" gap.                 |
| Grinder, No. 40 Heald, cylinder.      | Square shears, 30" Bertsch, foot   |
| Grinder, 10x50 Norton.                | power, 15" gap.                    |

### FOR SALE BY

**The Washburn Company,**

**6126 S. La Salle St., Chicago, Ill.**

- |  |        |  |        |
|--|--------|--|--------|
| Converter, rotary, d. c. and a. c., 10 k. v. a., 220 volt..... | \$ 75. | Press, reducing, 4" stroke, with dial, Waterbury-F. Fdry. pattern, wt. about 2,000 lbs; nearly new.....  | \$175. |
| Drill, bench, with chuck & c. s.....                           | 10.    | Presses, dbl. action, 34" str. outside slide, 5" str. inside slide, Waterbury-F. Fdry. pattern, wt. about 3,000 lbs., nearly new, with dials, (2), each..... | 250.   |
| Drill, 2-spindle bench.....                                    | 25.    | Press, foot.....   | 10.    |
| Emery wheel stand, No. 1 Besly.....                            | 20.    | Screw slotter, Manville auto.....  | 50.    |
| Emery wheel stand, 2-spd. cone pulley, 4" belt, with c. s..... | 25.    | Shaper, 16" Gould & Eberhardt swaging machine, cold, No. 2 Goodyear.....   | 100.   |
| Friction clutch, 24" Plamondon, 3 15/16 bore.....              | 65.    | Swaging mchs., large, Dayton type.....   | 125.   |
| Generator, plating, Hanson Van W., 500 amp., 5-6 v., d. c..... | 65.    | Swaging mchs., medium, Dayton type, (3), each.....   | 80.    |
| Generator, Kester Electric, 5-10 v., 1,000 amp., d. c.....     | 175.   | Swaging mchs., small, Dayton type, (2), each.....  | 60.    |
| Hack saw, power.....   | 20.    | Turret lathe, small.....   | 40.    |
| Hammers, 100 lb. poppet drop, (2), each.....                   | 100.   | Turret lathes, Garvin, b. g., 12" swing, c. s. & draw-in chuck, (3), each.....   | 50.    |
| Lathe, speed.....  | 20.    | Turret lathe, Pearson, 12" swing, 3" belt, 4-st. cone. pump and c. s. and draw-in collet.....  | 50.    |
| Lathe, speed, 12" Garvin.....                                  | 25.    | Turret lathe, b. g., p. f., 14" sw.....  | 100.   |
| Lathe, trimming, 12" swing.....                                | 25.    | Turret lathe, No. 4 Warner & S.....  | 150.   |
| Miller, Garvin No. 5.....                                      | 50.    |  |        |
| Miller, No. 13 Kempsmith, with c. s.....                       | 50.    |  |        |
| Miller, No. 8 Kempsmith.....                                   | 225.   |  |        |
| Miller, B & S, Lincoln type.....                               | 100.   |  |        |
| Miller, large pl., Lincoln type.....                           | 100.   |  |        |
| Polishing mchs., Hanson Van W., with c. s., (3), each.....     | 15.    |  |        |
| Press, power, flywheel 22x34, stroke 1½", bed 7"x13".....      | 65.    |  |        |

## SECOND-HAND MACHINERY

### FOR SALE BY

**Delta Equipment Co., 148 N. 3rd St., Philadelphia**

#### ENGINE LATHES.

10"x 4' Reed, plain change.....\$ 90.	17"x 8' Greaves-Klusman.....\$300.
12"x 4' Worcester, semi q. c..... 275.	17"x 8' Porter, q. c..... 450.
14"x 6' American, geared head 550.	18"x 8' Prentice, q. c..... 500.
15"x 8' Sebastian, gap..... 325.	21"x12' LeBlond, q. c..... 625.
15"x 8' Carroll-Jamieson, q. c... 400.	24"x10' Carroll, semi q. c..... 600.

#### MILLING MACHINES.

No. 0 Steptoe, b. g., vertical attachment, dividing heads...\$500.	No. 2B Brown & Sharpe, motor driven.....\$550.
No. 2 Owens universal..... 650.	No. 3 Hendey..... 575.

#### SHAPERS.

14" Smith & Mills.....\$300.	16" Hollingworth, b. g.....\$450.
15" Kelly..... 300.	20" G. & E. b. g..... 800.
16" Cincinnati..... 450.	24" Kelly, b. g..... 700.

### FOR SALE BY

**Peninsular Machinery Co., 429-31 E. Jefferson Ave., Detroit, Mich.**

#### LATHES.

9"x14' Porter-Cable, (4).	14"x 8' Monarch, l. c. g., taper.
13"x 5' South Bend, l. c. g.	16"x 8' Bradford, l. c. g.
13"x 5' Champion, l. c. g.	16"x 8' LeBlond, quick change.
14"x 6' Prentice, l. c. g., (2).	17"x10' LeBlond auto.
14"x 6' Bradford, q. c.	18"x8' Monarch, q. c. (2).
14"x 6' Carroll-Jamieson, (5).	21"x11' LeBlond, all geared, (2).
14"x 6' Flather, l. c. g.	26"x10' LeBlond crankshaft, (2).
14"x 6' Reed, l. c. g., (5).	34"x36 Lo-Swing.
14"x 8' Rockford, l. c. g.	

#### DRILLING MACHINES.

3-spd. Henry & Wright, h. s., b. b.	28" Barnes, s. h., taper.
3-spd. Leland-Gifford, h. s., b. b.	28" Hoefler, st. h. d., (2).
22" Sibley all-geared, p. f., with tap.	No. 3 Avey, h. s.
22" Sibley all-geared, p. f.	No. 3 Baugh multiple
22" Barnes s. h., b. g., p. f.	25" Fosdick s. h. all-geared taper.
26" Barnes, s. h., b. g., p. f.	3' Western plain radials, (2).

#### MILLING MACHINES.

No. 6 Whitney hand.	No. 32 Kempsmith.
United States hand.	No. 14 Cincinnati plain.
No. 0 Steptoe, b. g. and p. f.	12" Cincinnati plain manufacturing.
No. 0 Farwell q. c.	No. 2 Brown & Sharpe plain.
Briggs type A, (2).	No. 1-B LeBlond univ., cone type.
No. 12 Brown & Sharpe.	48" Newton 2 spindle.

#### TURRET SCREW MACHINES.

1" Dreses, p. h. and p. f.	2x26 Pratt & Whitney, f. h.
1/2" Cleveland auto., type B.	2x26 Pratt & Whitney, a. c.
1 1/2" Defiance, f. h.	No. 4 Warner & S. f. h. turret lathe.
2" Milholland, f. h.	

#### GRINDERS AND POLISHERS.

No. 1 Brown & Sharpe universal.	No. 210 Heald magnetic.
6x32 Norton plain.	20" Blount wet grinders, (2).
10x24 Landis plain.	No. 4 Webster & Perks polishing.
No. 2 Gardner disc grinder.	Bennett & O'Connell dbl. sp. pol.
No. 24 Gardner vertical.	No. 23-B Valley City disc.
No. 70 Heald internal.	No. 220 Badger automatic.
No. 50 Heald cylinder.	

#### MISCELLANEOUS.

Band saw, 6" Napier.	Lapping mchs., Bethel-Player, (3).
Cutting-off mch., 4" Hurlbut-Rogers.	Metal cutter, No. 1 Gray.
Filer, No. 2 Cochrane & Bly.	Screw slotter, No. 1 National Acme.
Gear tester, bevel, Gleason.	Threader, 2-sp. Webster & Perks.
Hammer, drop, No. 5 Williams-W.	Threader, H. & G. 9/16 automatic.
Keysater, No. 1 Davis.	Tumbling barrels, No. 3-S Globe, (2).

## SECOND-HAND MACHINERY

### FOR SALE BY

**Badger-Packard Mchy. Co., 133-139 W. Water St., Milwaukee, Wis.**

#### REBUILT MACHINERY.

Lathe, 13-22" x 5 1/2' gap, c. r.....	\$ 350.	Press, No. 2 o. b. i.....	\$ 250.
Lathe, 11" x 5' Rockford, c. r....	165.	Press, No. 3 Niagara, o. b. i....	250.
Lathe, 16" x 10' Perkins, c. r.....	225.	Press, No. 3 Toledo, o. b. i.....	325.
Lathe, 18" x 8' Hamilton, c. r.....	275.	Press, No. DG-4 Ferracut, gd.	500.
Miller, No. 1 Kempsmith pl....	450.	Screw mche., W. & S. No. 2.	275.
Miller, No. 2 Milwaukee, plain	450.	Screw machine, Smith 1", new	300.
Miller, No. 3 Kempsmith, pl....	500.	Shaper, 14", friction.....	150.
Miller, No. 1 B. & S., univ.....	450.	Shaper, 16" Davis, plain.....	350.
Press, No. 10 Stoll, bench.....	60.	Shaper, 18" American, b. g.....	500.
Press, No. 81 Consolidated.....	85.	Shaper, 48" Morton, draw cut.	300.
Press, No. 1 Perkins model A	90.	Square shear, 36" gap, ft. pwr.	165.
Press, No. 2 Ferracut.....	125.	40 Lathe screws, 6 to 12' long.	
Press, No. 1 R. & K., o. b. i....	150.	Nos. 1, 2, 4, 5, 6 pitch \$1.00 per ft.	

### FOR SALE BY

**The H. A. Smith Machinery Co., - - - Syracuse, N. Y.**

#### BALANCING MACHINE.

Rockford style B, motor driven.

#### BORING MILLS.

Gisholt 36" vertical, with combination chuck in table.

Gisholt 42" vertical, 2 swivel heads.

#### DRILL PRESSES.

Allen 4-spindle ball bearing.

Barr 6-spindle, 4" capacity.

Snyder 30", bk. grd., sliding head.

Barnes 34", bk. grd., sliding head.

Snyder 36", b.g., slid. hd., tap. attach.

#### RADIAL DRILLS.

Fosdick 5' universal, motor drive.

Hammond 4' sensitive, tap. att., (3).

#### GEAR CUTTERS.

26" Brown & Sharpe No. 3.

48" Gould & Eberhardt.

Fellows No. 62 gear shaper, motor drive.

#### GRINDERS.

No. 10 Brown & Sharpe plain.

12x36 Modern, new.

10x72 Landis plain.

12x40 Modern plain.

16x52 Landis plain.

#### UNIVERSAL TOOL AND CUTTER GRINDERS.

Wells No. 190 universal.

#### INTERNAL GRINDERS.

Bryant No. 10-A.

Brown & Sharpe No. 23.

Heald No. 60.

Brown & Sharpe No. 3 universal.

Heald No. 70.

Madison Gisholt automobile cylinder grinder.

#### LATHES.

20x10 Hendey, taper attachment.

24x12 Hendey, taper attachment.

12x6 Seneca Falls, with pan & taper.

12x6 Seneca Falls style E.

14x24x5 1/2' bed Barnes, gap.

21x12 Porter, with increase swing att.

#### PORTER-CABLE LATHES.

Porter-Cable, with complete piston turning equipment.

#### MILLING MACHINES.

No. 13-B Brown & S. production.

Cincinnati No. 3 plain.

No. 3 B. & S. vert., all power fds.

Brown & Sharpe No. 5 vertical.

No. 00 Brown & Sharpe hand miller.

#### PLANERS.

24"x24"x 6' Chandler.

26"x28"x 8' Niles.

26"x36"x10' Whitcomb.

36"x36"x24' Pond, 4 heads.

74"x54"x24' Pond, 4 heads.

#### AUTOMATIC SCREW MACHINES.

No. 2-A W. & S. hollow hex. turret lathes, with chucking equipment.

No. 0G Brown & Sharpe automatic.

21" Gisholt turret lathes, \$300 to \$500, according to condition, (3).

Cleveland 4 1/2" automatic.

#### MISCELLANEOUS.

Cutting-off machine, Hurlbut-Rogers, 4".

Die slotting machine, Garvin.

Grinder, Sellers auto. twist drill.

Tapping machine, Garvin No. 2.

Tapping machine, Garvin No. 2X.

## SECOND-HAND MACHINERY

### FOR SALE BY

#### McMullen Machinery Company,

Automatic,  $\frac{3}{4}$ " Cleveland.  
Automatics, No. 00 B. & S.  
Band saw, 10" Napier, metal.  
Cut-off saw, No. 4 N. & B.  
Drill, 31" Barnes, sliding head.  
Drill, No. 1 Avey 2-sp., p. f.  
Grinder, Cleveland, profile.  
Grinder, No. 6-A Bryant.  
Lathe, 9"x21 $\frac{1}{2}$ " Sundstrand, mfg.  
Lathe, 2 $\frac{1}{2}$ "x26 Greenlee, flat turret.

Ask for Complete List.

#### Grand Rapids, Mich.

Miller, No. 2-H Becker vertical.  
Pipe mch., 6" Merrill No. 6 $\frac{1}{2}$ .  
Press, Chicago scrap baler.  
Press, No. 3 Manville, d. a.  
Presses, No. 6 Manville, pillar, (3).  
Presses, No. 6B Manville, pillar, (2).  
Shear, No. 14 Pettengell, rotary.  
Shear, No. 152 Niagara, sq.  
Shear, No. 2 W. F. Co. 36" gang.  
Welders, No. 10-A Thomson vert. (7)

### FOR SALE BY

#### Reliance Machinery Sales Company

#### Brighton Road at Pennsylvania Ave.,

#### Pittsburgh, Pa.

Bolt cutter, Acme 2" class "A",  $\frac{3}{4}$ " to 2".  
Bolt cutter, 3" Landis, single head, lead screw.  
Boring mills, 30" Bullard, 1 head.  
Boring mill, 34" Colburn, 1 head.  
Boring mill, 72" Betts vert., 2 hds.  
Boring mill, 90" Niles vert., 2 hds.  
Buildozer, No. 5 Williams & White.  
Die slotter,  $\frac{3}{4}$ " stroke, Garvin.  
Drill, 24" Hofer, sliding head.  
Drill, 26" Rockford, sliding head.  
Drill, 36" Snyder, sliding head.  
Drill, 2" 6" Carlton high speed radial.  
Drills, Amer. 4 & 5" radial, g. b., s. p. d.  
Drill, Allen 4-spindle, No. 2 taper.  
Drillers, 5-spindle Detroit. (2).  
Gear cutter, 24" Becker-B. auto.  
Grinder, 6"x32" Norton plain cyl.  
Grinder, 14" Pratt & Whitney vertical surface.  
Lathe, 14"x 5' Hendey, tie bar.  
Lathe, 14"x8' Whitcomb-Blaisdell.  
Lathe, 16"x8' Hendey, tie bar.  
Lathe, 17"x8' Sidney, hvy. duty, q. c. g.  
Lathe, 18"x8' Lodge & S., q. c. g., t. a.  
Lathe, 18"x10' Lodge & S., q. c. g., s. p.  
Lathe, 18x10' Reed, q. c. g., d. b. g.  
Lathe, 20"x10' Lodge & S., q. c. g.  
Lathe, 24"x12' Rahn & L., q. c. g.  
Lathe, 30"x12' Johnson, triple grd.  
Lathe, 34"x12' LeBlond, trip. grd.  
Lathe, 36"x18' American, grd. hd.  
Miller, No. 1 Milwaukee universal.  
Miller, No. 2 Cincinnati, p. vert.  
Miller, No. 2 Cincinnati plain, v. a.  
Miller, No. 3 Hendey plain.  
Miller, No. 4 Cincinnati plain.  
Miller, No. 29 Oesterlein universal, v. a., m. d.  
Miller, model "B" Becker, vert., s. p. d.  
Miller, model "C" Becker vertical.  
Miller, No. 32 Kempsmith mfg.  
Nut tapper, 2" National, 6-spindle.  
Pipe machine,  $\frac{1}{2}$ " to 2" Armstrong.  
Pipe machine, Jarecki, cap. 1" to 4".  
Pipe machine, Merrill, 1 $\frac{1}{2}$ " to 6".

Pipe machine, Merrill, 2 $\frac{1}{2}$ " to 12".  
Planer, 24"x24"x 6' Gray, 1 hd.  
Planer, 30"x30"x10' Woodward & P.  
Planer, 36"x36"x 8' Cincinnati, 1 hd.  
Planer, 36"x36"x10' Gray, 1 head.  
Press, No. 3 Adriance, o. b. i., 2" str.  
Press, No. 4 Toledo, o. b. i., 2 $\frac{1}{2}$ " str.  
Press, No. 5 Toledo, o. b. i., 3" str.  
Press, No. 10 Bliss, reducing, 4" str.  
Press, No. 23 Stoll horning.  
Press, No. 52 Bliss, s. s., 2" stroke.  
Presses, Nos. 61 & 62 Bliss o. b. i., f. w.  
Press, No. 73 Consolidated, o. b. i., 2 $\frac{1}{2}$ " st.  
Press, No. 74 Consolidated, o. b. i., 2 $\frac{1}{2}$ " st.  
Press, No. 74 Consolidated, geared.  
Press, No. 65 Consolidated, geared.  
Press, No. 87 Niagara screw.  
Press, Ferracute DD2, o. b. i., cam.  
Punch, Cleve., 24" thrt.,  $\frac{1}{2}$ " x  $\frac{1}{2}$ ", m. d.  
Punch, Cleve., 15" thrt.,  $\frac{1}{2}$ " x  $\frac{1}{2}$ ", m. d.  
Punch, Cleve., 72" thrt.,  $\frac{1}{2}$ " x  $\frac{1}{2}$ ", m. d.  
Reduction gear, Foote, 50 to 1.  
Saw, No. 8 Marvel metal band.  
Saws, American metal sw., m. d., (2).  
Screw mch., No. 1 W. & S., with tools.  
Screw machine, No. 2 Foster, pl. hd.  
Screw machine, No. 2 W. & S., pl. hd.  
Screw machine, No. 4 Foster, g. f. head., power feed to turret.  
Screw machine, No. 6 Foster, g. f. head., power feed.  
Screw machine,  $\frac{3}{4}$ "-1 $\frac{1}{2}$ " Cleveland, model "A", automatic.  
Shaper, 16" Columbia b. g. crank.  
Shaper, 20" Cincinnati, b. g. crank.  
Shaper, 21" American, b. g. crank.  
Shaper, 24" Milwaukee, b. g. crank.  
Sh., No. 20 Quickwork, cap. 12 gauge  
Shear, 48" Bertsch, 18" gap,  $\frac{1}{2}$ " cap.  
Shear, squaring, 96" Stoll, 16 ga.  
Shear, squaring, 96", power, 20 ga.  
Threader, Geometric, cap.  $\frac{1}{2}$ " to  $\frac{3}{4}$ ".  
Turret lathe, 24"x24", J. & L., flat head, s. p. d.  
Upsetter, 3" Acme.

Our warehouse is full of bargains. What have you for sale?

## SECOND-HAND MACHINERY

### FOR SALE BY

**Clark Machinery Co., 1235-45 St. Clair Ave., Cleveland, O.**

Brake, 8', 16 gauge.	Shaper, 10" Pratt & Whitney.
Millers, vertical, No. 2 Becker.	Shaper, 16" Ohio.
Millers, vertical, No. 5 Becker.	Shaper, 16" Gould & Eberhardt, b. g.
Millers, vertical, No. 2 Brown & S.	Shaper, 20" Smith & Mills.
Millers, univ., No. 2 Cincinnati, (2).	Shaper, 24" Ohio, back geared.
Planer, 42"x42"x8' Gray, 2 heads.	Square shear, 6', 18 gauge.

Machine tools for every purpose. Send us your inquiries.

### FOR SALE BY

**Bell & Howell Company, 1801 Larchmont Ave., Chicago, Ill.**

The following are surplus machine tools, which are guaranteed as good or better than new factory tools:

Lathe, 12" Reed Prentice, equal new.	Riveter, Townsend h. p., 100% new.
Miller, No. 3 Garvin duplex, 89% new.	Tapping machine, Tuttle, 99% new.
Profiler, Reed Prentice 2-spindle.	

The above equipment has seen little or no use whatever. Has been used only in our own precision machine shop and on work calling for tolerance of .0001". Best offer takes any or all.

### FOR SALE BY

**Machine Tools Sales Company**

**236 Commercial Trust Bldg., - - - - Philadelphia, Pa.**

Attractively Priced Machinery from a Modern Plant

#### BORING MACHINES.

14' & 20' Betts vert., 2 swiv. hds., belt.	42"x24" Bullard New Era, vertical.
10' Niles vert., 2 swiv. hds., mtr. dr.	36" King vert. turret, swings 44 1/2".
8' Niles vert., 2 swivel heads, belt.	No. 5 Barret cyl., 7" bar.
8 1/2" Bickford vert., 2 swiv. hds., belt.	No. 31 & No. 32 Lucas, 3" & 3 1/2" bar.
72" Gisholt vert., 2 swiv. hds., m. d.	3-A Universal horizontal, bar, belt.

#### DRILLING MACHINES.

6' American plain & univ. radials.	26" Aurora, sliding head.
2 1/2', 3', 4' & 5' radials, various makes.	Sipp and Leland-Gifford sensitive.
Baush mult. 28" round hd., 14 spdl.	Model "F" Turner 4-spindle turret.
Western 25" round head, 6 spindle.	Quint turret drill, 6-spindle.
Nos. 513 & 310 Baker h. d. drills.	

#### GRINDERS.

12"x36" univ., 10"x30" plain Landis.	No. 1 Norton universal cutter and tool.
No. 1 Brown & Sharpe surface.	

#### LATHES, TURRET AND AUTOMATICS.

Fay automatics, latest type.	No. 2 old style hollow hex. turret.
No. 3-A W. & S. hollow hex. turret.	No. 4 W. & S. universal turret.
No. 2-A W. & S. universal turret.	30 Other W. & S. and B. & O.

#### ENGINE LATHES.

84"x40' Putnam, geared head, motor drive.	36"x12' New Haven, cone drive, sgl. back geared.
65"x35' Pond, geared head, mtr. dr.	32"x18' American, geared head, arranged for motor drive.
50"x15' New Haven, blocked to swing 60", cone drive.	27"x10 1/2' American cone.
36"x18' Lodge & Shipley, s. p. d.	50 Others, 14"x6' to 24"x16'.

#### MILLING MACHINES.

No. 10 Niles-Bement-Pond vertical, motor drive.	No. 2-B Kearney & Trecker h. p.
Nos. 4 & 5 Cincinnati plain, cone dr.	No. 3 Cin'ti vert. s. p. d. latest type.
	45 Other vertical plain & universal.

#### SHAPERS.

24" Gould & Eberhardt cone drive.	12 Other shapers, standard makes and sizes.
24" American, vise and countershaft.	

#### MISCELLANEOUS.

Automatics, 4 1/2" & 5 1/2" Cleveland, model A.	Thread miller, No. 12 Lees-Bradner.
Elevating truck, auto. trans.	Time clocks, International, with card racks.

## SECOND-HAND MACHINERY

### FOR SALE BY

**The Patterson Tool & Supply Co.,** - - - **Dayton, Ohio**

Air compressor, 3 $\frac{1}{2}$ "x4" Ingersoll-R.	Miller, U. S. hand.
Grinder, No. 2 American surface.	Miller, No. 25 Becker plain.
Lathe, bench, Hjorth.	Miller, No. 2 Rockford universal.
Lathe, bench, 4x5 Elgin.	Screw mche., No. 2 Bardons & O.
Lathe, 14"x6" Rockford.	Shaper, 24" Potter & Johnston.

### FOR SALE BY

**Donahue Steel Products Co.,** - **204 N. Jefferson St., Chicago, Ill.**

Bulldozers, Nos. 1, 2, 3, 4, 5 & 6 Williams & White.  
Hammers, cushioned helve, 25, 40, 60, 80, 100 & 200 lb. Bradley.  
Hammers, upright, 50, 100, 200, 300 & 500 lb. Bradley.  
Hammers, compact, 30 lb. Bradley.  
Hammers, upright, Bradley strap, 30, 50, 75 and 100 lb.  
Hammer, crank lift drop, Williams & White No. 5.  
Hammer, board lift drop, 800 lb. Williams & White.  
Punch, s. e., No. 1 Long & A., 1 $\frac{1}{2}$ " thru 1", arch. jaw, motor drive, 3" stroke.  
Punch, Rock River,  $\frac{3}{4}$ " thru  $\frac{1}{2}$ ", 24" throat.  
Punch, s. e., No. 3 Long & Allstatter,  $\frac{3}{4}$ " thru  $\frac{7}{8}$ ", 36" thrt., architectural jaw.  
Punch & shear, d. e., No. 14 Williams & White, 1 $\frac{1}{2}$ " thru 1".  
Punch & shear, Cleveland, e. f., 30" throat, arch. jaw, gag socket punches, 1 $\frac{1}{2}$ " thru 1".  
Saws, hot, Nos. 2 & 3 Ajax.  
Shears, bar, Long & Allstatter, table cast on slant, cap. 1 $\frac{1}{2}$ " round.  
Shears, bar, Long & Allstatter No. 2, table cast on slant, cap. 2" round.  
Shear, alligator, Dolger & Kirstin, capacity 1 $\frac{1}{2}$ " round.  
Shears, Pels 5" & 6"; United Engineering 4" guillotine.  
Storage battery elevating platform truck, Automatic Transportation Co.  
Upsetters, two 1 $\frac{1}{2}$ " Ajax; one each 1" Ajax, 1 $\frac{1}{2}$ " National, 1" Acme, 2" Acme.  
Threading machines, one No. 1; one 1 $\frac{1}{2}$ " sgl. spdl. Landis; two 1" dbl. spdl.  
Landis, with lead screws; one 3" single spindle Morgan Reliance.  
Thread rollers, one each  $\frac{3}{4}$ ",  $\frac{1}{2}$ ",  $\frac{3}{8}$ " and  $\frac{1}{4}$ ".  
Tumbling barrels, 24x50 and 30x50 Sly, (2).

All of the above in our Chicago stock.

### FOR SALE BY

**The Randle Machinery Co., 1723 Powers Street, Cincinnati, Ohio**

#### ENGINE LATHES.

14"x 6' Lodge & S., q. c.....\$ 450.	24"x 8' Schumacher & Boye,
15"x 6' Flather, loose change.. 200.	loose change.....\$ 500.
16"x 8' LeBlond, loose chge.. 300.	30"x16' Reed, loose change... 900.
21"x10' LeBlond, quick chge. 750.	48"x24' Niles, loose change... 2,000.

#### PLANERS.

32"x32"x14' American, 2 heads.....	\$1,250.
36"x36"x14' American, 2 heads.....	1,350.
36"x36"x18' Niles, double housing, each housing equipped with 2 rail heads, motor drive.....	1,500.
42"x42"x26' Cincinnati, 2 heads.....	2,250.
60"x60"x20' Niles, 4 heads, motor drive.....	3,000.
Pedrick & Ayer open side, planes 30" wide, bed 11' long.....	1,000.

#### MISCELLANEOUS.

Bolt cutter, Acme 4" sgl. hd...\$ 750.	Miller, No. 3 Cincinnati pl...\$ 800.
Boring mill, 60" Niles vert., d. c. motor drive, with mtr... 750.	Radial drill, 6' Niles full univ., d. c. motor dr., with motor... 750.
Drill press, 45" upright, back geared, power feed..... 300.	Shaper, 12" Pratt & Whitney crank, traveling head..... 300.
Drill press, 24" Aurora upright, back gear, pwr. fd.... 275.	Shaper, 29" Smith & Mills, back grd. crank, late type.. 800.
Grinder, No. 60 Heald cylinder 750.	Shaper, 24" Kelly, b. g. crank, 750.
Hack saw, Kwik Kut, power, 14" blade, 50.	Turret lathe, 24" Gisholt, d.c. motor drive, with motor..... 500.

Many other bargains. Send us your requirements.

## SECOND-HAND MACHINERY

### FOR SALE BY

**F. H. Allen,** " " " " **Donaldsonville, La.**

Geared ladle, second-hand, 38" deep, 49" wide at top, splendid condition.  
Hydraulic wheel press, brand new, latest improved, 48" between tie bars,  
150 tons capacity.

Have no use for these machines and will sell cheap.

### FOR SALE BY

**Botwinik Brothers,** " " " " **21 Sylvan Ave., New Haven, Conn.**

"Connecticut Machinery Merchants"

#### UNIVERSAL GRINDING MACHINES.

10-Brown & Sharpe No. 1 universal grinding machines, complete with all regular standard equipment, overhauled and in A-1 condition. Price \$375 each f. o. b. New Haven, Conn. Act quick.

### FOR SALE BY

**Brownell Machinery Co.,** " " " " **11-13 Eddy St., Providence, R. I.**

#### BORING MILLS.

24" Bullard, New Era.  
24" Bullard rapid production.

30" Baush vertical.  
No. 1 Cleveland horizontal, 24".

#### DRILLS.

26" Henry & Wright sen. radial.  
25" Weigel, sliding head.  
23" Snyder, stationary.  
Single spindle Allen, h. s., b. b.

3-spindle Reed-Prentice.  
4-spindle Barr, power feed.  
5-spindle Henry & Wright.

#### GEAR CUTTERS.

Whiton hand.  
No. 12 B. & S., universal, 12x8.

No. 13 B. & S. automatic, 18x4.  
No. 3 B. & S. automatic.

#### GRINDERS.

No. 12 B. & S. plain 8x36.  
No. 3 Wilmarth surface.  
No. 1 W. & M. cutter & reamer.

No. 2 B. & S. tool & cutter.  
20" Taylor & Fenn wet tool.  
20" Blount wet tool.

#### LATHES.

11"x 4' Mann.  
14"x 6' Monarch, q. c. g.  
14"x 6' Rockford, economy.

18"x 8' Monarch, q. c. g.  
20"x 8' Rousted.  
26"x 16' Reed, taper.

#### PLANERS AND SHAPERS.

17"x 17"x 5' Whitcomb.  
22"x 22"x 5' Whitcomb.  
24"x 24"x 6' Powell.  
26"x 30"x 14' Whitcomb-Blaisdell.  
30"x 30"x 8' Bement Miles.

54"x 42"x 14' Gray, spur gear, 3 hds.  
15" Hendey friction shaper.  
16" Ohio plain shaper.  
24" Potter & Johnston universal shaper.

#### ROLLING MILLS.

3x5.  
4x6 Standard.  
5x 8 McWilliams.

12x18 Standard.  
12x15 Hoagland hot rolling mill.

#### PRESSES.

No. 21 Bliss inclinable, 3".  
No. 3B Standard inclinable 2".  
No. 4 Manville, pillar pattern, 14".  
No. 1 Standard broaching & drawing.

No. 54 Niagara geared, 4".  
100 lbs. Standard plain drop.  
200 lbs. Standard plain drop.  
200 lb. Standard automatic drop.  
No. 24 Atlas arbor press.

#### SCREW MACHINES.

No. 2 Southworth, wire feed.  
14x18 Pratt & Whitney, b. g., p. f.  
No. 24 Garvin, g. f. h.  
No. 6-A P. & J. automatic chucking.

No. 2P Potter & Johnston piston and piston ring machines.  
8-2" Cleveland model "B" automatics, good as new.

#### MISCELLANEOUS.

Broaching machine, No. 0 LaPointe.  
Charging outfit, G. E., 100 batteries,  
45 k. w. motor, 550 v., a. c., 60 cy.,  
3 ph. new.  
Coupling, No. 2 Almond, quarter-turn, 10 h. p.

Miller, No. 6 Becker vertical.  
Miller, No. 6 Whitney hand.  
Miller, No. 15 Garvin plain.  
Pipe machine, No. 7 B Jarecki, 1-3".  
Slotter, 12" Bement-Miles.  
Tapper, No. 2 Garvin vertical.

## SECOND-HAND MACHINERY

### FOR SALE BY

**The Canton Machine Shop. - 320 Rex Ave., S. E., Canton, Ohio**

Boring machine, auto cylinder.  
Boring machines, Walcott cylinder,  
new, (5).  
Drill Henry & Wright, upright.  
Grinders, Persons & Arter rotary,  
with magnetic chuck, 90%, (2).  
Grinders, 18" Gardner double disc,  
90%, (2).  
Lathes, 12" P. & W., 75%, (2).

Lathes, 15" x 6' Rockford, t. a., c. r.,  
90%, (3).  
Lathe, 16" x 6' Reed, t. a., c. r., 75%.  
Milling mchs., U. S. plain, 90%, (4).  
Milling machine, No. 2 LeBlond  
univ., 50%.  
Planer, 26" x 26" x 6'.  
Shaper, 15" Smith & Mills.  
Shingle edging machines, new, (3).

### FOR SALE BY

**Herman L. Winterer,**

**943-53 N. Front St., Philadelphia, Pa.**

#### LATHES.

43" x 17' 4" Bement-Miles.  
37 1/2" x 14" Johnson d. b. g., q. c. f., t. a.  
32" x 12" Pittsburgh, heavy duty, q. c. g.  
27" x 12" Bullard.  
26" x 11" Wickes, q. c. g.  
28" x 10" Niles, q. c. g.,  
25" x 14" Hendey, q. c. g., taper attach-  
ment, oil pan, (2).  
24" x 14" Porter.

21 1/2" x 6" LeBlond.  
20" x 8' 6" Walcott, d. b. g., q. c. g., (2).  
20" x 8' Whitcomb Blaisdell, q. c. g.  
19" x 10" Draper, patent head.  
18" x 8' Davis, q. c., d. b. g.  
18" x 7' Chard, d. b. g., semi q. c. g.  
18" x 6" to 8' lathes. (6).  
16" x 8' Greaves & Klusman, b. g., t. a.  
And many others.

#### TURRET LATHES.

3 1/2 x 28" Pond, triangle.  
3 x 36" Pratt & Whitney, hollow hex.  
20" Acme flat, 2 1/2", h. s. motor drive.  
20 x 7' 6" Pratt & Whitney, back grd.  
20 x 7' Bridgeport, 2 1/2" h. s.  
19" x 7' Fay & Scott, back grd.  
No. 22 1/2 Garvin Monitor.

No. 3 Kempsmith.  
14" x 6' Warner & Swasey.  
16" x 6" Johnson, back grd.  
No. 3 Bardons & Oliver back grd.  
14 1/2" x 5' 3" Pratt & Whitney, (2).  
No. 3 Foster Kimball.

#### DRILL PRESSES.

42" Gang radial, s. p. speed box.  
40" Barnes horizontal radials, (2).  
36" Bickford radial, circular base,  
motor driven.  
30" Davis & Egan radial.

28" Rockford, q. c. g. feed (2).  
14" 6-spindle Allen sensitive.  
Henry & Wright sensitive.  
Plain drills, all sizes.  
Drill presses, assorted sizes.

#### MILLING MACHINES.

38" x 6' Ingersoll horizontal slab.  
No. 5 Cincinnati, table 9 1/2 x 50 1/2".  
No. 15 Garvin, table 12 x 42".  
No. 3 Becker Brainard, table 12 x 40".  
No. 3 Hendey-Norton, q. c. g.

No. 5-C Becker vert., rotary table.  
No. 5-H Becker vert., table 14 x 43.  
No. 3 Becker vert., rotary table.  
No. 7-H Lincoln type Becker miller.  
No. 1 Milwaukee plain.

#### PLANERS AND SHAPERS.

12' x 10' x 25" Sellers planer, 4 heads.  
30" x 30" x 8" Hewes & Phillips planer.  
30" x 30" x 8" Putnam planer.  
26 1/2" x 26" x 6' Hendey planer.

24" x 24" x 6" Sellers planer.  
48" Morton draw-cut shaper.  
39" Pedrick & Ayer, open side.  
14" Warren shaper.

#### MISCELLANEOUS.

Boring mill, car wheel, 60" Newton.  
Boring, drilling and milling machine,  
17 1/2" Bement Niles horizontal.  
Grinder, 13 1/2" x 5" Landis universal.  
Grinder, No. 1 Norton universal.  
Grinder, disc, No. 17 Besly.  
Grinder, disc, No. 1 Besly.  
Hammer, 15 lb. Bradley helve.  
Hammer, 25 lb. Little Giant, m. d.  
Hammer, 40 lb. Bradley, helve.  
Hammer, 60 lb. Hotchkiss.  
Hammers, 60 lb. Bellefonte upright; 2  
Hammer, 500 lb. Merrill board drop.

Hammer, 750 Merrill, board drop.  
Hammer, 1000 lb. Merrill board drop.  
Hammer, 1250 lb. Bell steam.  
Keyseater, 18" stroke Morton.  
Punch presses, all sizes, (55).  
Punch & shear, Industrial Wks. d. e.,  
capacity 1 1/2" in 1", squaring 1 1/2" x 6".  
Riveter, air, 6" gap Allen, cap. 1 1/2".  
Riveter, air, 25" gap Allen, cap. 1 1/2".  
Slotter, 14" Niles.  
Tooth rounding mche., Schuchardt  
& Schutte.

Large assortment of General Machinery. Send for Complete Price List.



# America's Greatest Values

## PIPE MACHINES

2" Curtis.  
6" Bignall & Keeler.  
12" Bignall & Keeler.

## PRESSES

No. 74½ Bliss s. s. 6" stroke.  
No. 75½ Bliss s. s. 6" stroke.  
No. 58 Toledo s. s. 6" stroke.  
No. D 20' Ferracut s. s. 16" str.  
No. 256 Toledo s. s. double crank.  
No. 6N American, o. b. i., 3" str.  
No. 5 Bliss Stiles type, 2½" str.

## STRUCTURAL MACHINERY

No. 1 Cleve. I-Beam Straightener.  
6x6x1" Double Angle Shear.  
15" Pels I-Beam Shear.  
10" thr. Cleve. Horz. Punch 1" cap.  
20" thr. Cleve. s. e., Punch ½" cap.  
24" Whiting s. e. Punch 1" cap.  
36" Cleveland, s. e. Punch 1" cap.  
42" Whiting s. e. Punch 1" cap.  
48" Cleveland s. e. Punch 1" cap.  
Stand. Eng. Beam Cooper & Notcher  
Long & A. hvy. duty Punch, Style D.  
No. EG6 Ferracut s. s., 3" str.

## PLANERS

16"x16"x45' Modern, 1 head.  
22"x22"x 5' Gray, 1 head.  
24"x24"x 6' Gray, 1 head.  
36"x32"x10' Pond, 1 head.  
48"x48"x14' Patch, 4 heads M. D.  
48"x48"x14' W. & P., 4 hds. M. D.  
48"x28"x18' New Haven, 2 heads.

## SHEARS

1½" G. & Mc. Rod Shear.  
1½" Carlin Alligator Shear.  
2½" Chicago Alligator Shear.  
4" Carlin Alligator Shear.  
5" Carlin Alligator Shear.  
6½" United Alligator Shear.  
20" Mesta Bloom Shear.

## GRINDERS

18"x2' U. S. Floor Grinder, m. d.  
No. 2 Diamond Wet Tool Grinder.  
12"x36" Fitchburg Plain.  
16"x36" Landis Universal.  
16"x66" Landis Universal.  
16"x65" Landis Crankshaft.  
26"x96" Landis Plain, with crankshaft attachment.

## ENGINE LATHES

12"x 5' Vernon, q. c. g., t. a.  
16"x 6' Putnam, taper attach.  
16"x 8' Bradford, q. c. g.  
19"x10' LeBlond.  
20"x10' Bradford.  
21"x12' LeBlond, q. c. g.  
24"x12' American, q. c. g.  
30"x16' LeBlond, q. c. g.  
36"x30' American, q. c. g., grd. hd.  
36"x32' Bridgeford, q. c. g., "  
42"x22' American, " "  
42"x23' Putnam, " "  
42"x30' American, " "  
42"x31' Putnam, " "  
48"x24' Bridgeford, " "  
60"x40' Field, triple grd.

## BORING LATHES

36"x40' Bridgeford Geared Head.  
36"x56' Bridgeford Geared Head.  
39"x48' Amalgamated Grd. Head.  
39"x64' Amalgamated Grd. Head.  
48"x44' Bridgeford Geared Head.  
48"x50' Amalgamated Grd. Head.

## HAMMERS (Steam)

300 - 600 - 800 - 1000-1200-2000-2500-4000  
and 6000 single & double frame.

## HAMMERS (Board)

400-600-800-1000-2000-2500 and 3000  
Bliss and Chambersburg.

## BOLT CUTTERS

No. 3 Geometric, cap. ½".  
1½" National double head.

## RIVETERS

Allen 32" thr., 16" gap.  
Allen 34" thr., 14" gap.  
Allen 66" thr., 13½" gap.

## MISCELLANEOUS

6" Niles Plate Bend Roll, ½" cap.  
1½" Ajax Forging Machine.  
6" Lennox Rotary Shear.  
6" class A Lovekin Flanging Mch.  
6" N. B. P. Radial, t. a.  
8-apdl. Bausch Multi. Drill, 1" cap.  
90" Newton Cold Cutting-off Saw.  
62" Newton Cold Cutting-off Saw.  
36" Newton Cold Cutting-off Saw.  
20" Newton Cold Cutting-off Saw.  
No. 4B W. & W. Bulldozer.  
72" Colburn Vertical Boring Mill.  
30" Bullard Boring Mill.  
10", 16" to 20" Slotters.

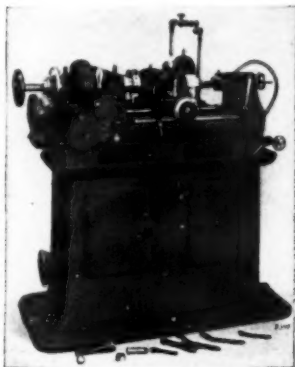
**NOTE:** For boiler, compressors, generator, steam engines, motors, etc., see our stock. Complete list on request.

# Harris Brothers Company

35th and Iron Sts.  
CHICAGO

17 State Street  
NEW YORK

## 90% New Thread Millers



- 1—PRATT & WHITNEY 4½"x12", as illustrated,  
arranged for motor drive, with 1 h. p., 220 volt, 60  
cycle, 3 phase General Electric motor,----- \$575.
- 1—PRATT & WHITNEY 4½"x12", as illustrated,  
arranged for motor drive, with 1 h. p., General  
Electric 220 volt, 60 cycle, 3 phase motor, with pump  
and piping and with motor for operating pump,---- \$625.
- 1—WALTHAM 6", with General Electric ½ h. p.,  
220 volt, 60 cycle, 3 phase motor,----- \$375.

These Thread Millers have been in actual use for  
less than a month; they are actually nearly new  
and in perfect order.

*Send for list of other used tools we have for sale*

**Monarch Machinery Co.**

300 North Third Street,      PHILADELPHIA, PA.

# "Factory" Rebuilt Tools

## Every Machine Rebuilt in a Machine Tool Factory

The following tools are exceptional bargains. The majority of these machines have been used exclusively in our own plant, where they have received the very best of care and attention, and all tools in this list have been completely overhauled and rebuilt right here in our own shop, consequently they cannot be classed with the average second-hand machine. They are factory rebuilt tools of the very highest quality, and many real bargains are included in this list.

### LATHES

- 1-16"x 8' American, quick change gear, single bk. grd. head and taper att.
- 1-18"x 8' American High Duty, quick change gear, with patented grd. head.
- 1-18"x10' American High Duty, quick change gear, with patented grd. head.
- 1-18"x14' American turning lathe, without screw cutting mechanism.
- 1-20"x10' American High Duty, quick change gear, with patented grd. head.
- 1-20"x12' American, quick change gear, with single back geared head.
- 1-24"x12' Greaves-Klusman Heavy Pattern, qck. chg. gr., dbl. bk. grd. hd.
- 1-24"x14' American High Duty, with single back geared head.
- 1-30"x10' American High Duty qck. chg. gr. with double back geared head.

### RADIAL DRILLS

- 1-3' American Ball Bearing Sen. Radial, with elev. table and tapping att.
- 1-3' Reed-Prentice Plain Radial, with tapping att. and gear box drive.
- 1-3' Mueller Plain Radial, with tapping attachment and gear box drive.
- 1-4' American Plain Radial, with tapping attachment and gear box drive.
- 1-5' Fosdick Plain Radial, with tapping attachment and cone pulley drive.
- 1-6' Bickford Plain Radial, with tapping attachment and gear box drive.
- 1-6' Fosdick Plain Radial, with tapping attachment and gear box drive.
- 1-8 spindle Niles-Bement-Pond Boiler Plate Drill.

### MILLING MACHINES

- 1-No. 3 LeBlond Plain, with 3-step cone, friction back gears.
- 1-No. 3 Cincinnati Vertical Milling Machine with single pulley drive.

### PLANERS

- 1-36"x36"x14' American Pl. with 2 hds. on cross rail and 2 sp. countershaft.
- 1-42"x36"x26' American Planer with two heads on cross rail, two side heads, and two speed countershaft.
- 1-48"x36"x18' American Planer with two heads on cross rail, two side heads, and two speed countershaft.
- 1-48"x48"x26' American Heavy Pattern Planer with two heads on cross rail, two side heads, and two speed countershaft.
- 1-72"x60"x31' Pond Planer with two heads on cross rail and countershaft.

### SHAPER

- 1-16" American Back Geared Crank with table support, cone pulley drive.

### FLAT TURRET LATHES

- 1-No. 2 (2"x17") Warner & Swasey Flat Tur. Lathe, 3-step cone, friction hd.
- 1-3"x24" Jones & Lamson Flat Turret Lathe, with 3-step cone, friction hd.

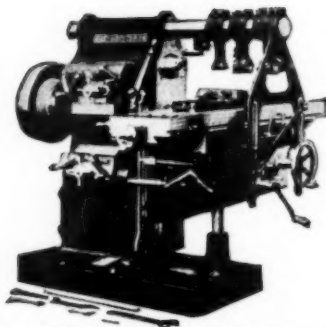
*In addition to the above we have a number of miscellaneous tools that are exceptional "buys"*

Many of the above tools have been used but very little, and are practically the equivalent of new machines. We repeat, there are many unusual and exceptional bargains in this list that somebody is going to get the benefit of. Write us immediately for descriptions, illustrations and prices, so you will be one of those to get the benefit of these bargains before they are gone.

## The American Tool Works Co.

Cincinnati, U. S. A.

Builders of LATHES - SHAPERS - RADIAL DRILLS



1—SLIGHTLY USED No. 4 Cincinnati High Power Plain Miller, rapid traverse, 90% new. New price \$4075. OUR PRICE \$1975.

## Other Specials

### BORING MILLS:

- 1—10'—16' Betts, heavy pattern, geared feeds, belt drive.
- 1—10'—16' Niles-Bement-Pond, latest type, motor drive.  
(Both with Central Boring Heads)
- 1—16' Betts, friction feeds, cone drive, older style.
- 2—12' Betts, heavy duty, belt and motor drive.
- 1—12' Pond (Plainfield), friction feeds, belt drive, older style.
- 1—10' Niles, with friction feeds, cone drive.
- 2—96" Niles, friction feeds, cone drive.
- 1—96" Niles-Bement-Pond, quick change feeds, belt drive.
- 1—96" Bickford, belted feeds, motor drive.
- 1—84" Bullard, rapid traverse, quick change geared feeds, motor drive.
- 1—64" Gisholt, heavy pattern, rapid traverse, quick change, geared feeds, motor drive.
- 2—No. 2 and No. 3 Barrett, Horizontal Cylinder.
- 1—No. 21 Lucas, Horizontal, 2 3/4" bar, variable speed motor drive.  
Forging Equipment, Headers, Bulldozers, Upsetters and Hammers.

### GEAR CUTTERS:

- 1—36" Schuchardt & Schutte Hobber.
- 1—No. 13 Brown & Sharpe spur and bevel gear cutter.

### ENGINE LATHES:

- 1—60"x15' New Haven, triple geared, face plate drive.
- 1—50"x30' Pittsburgh, quick change, triple geared, face plate drive.
- 1—48"x24' Lodge & Shipley, single pull-y, Reeves variable countershaft.
- 1—36"x32' Putnam, heavy duty, geared head.

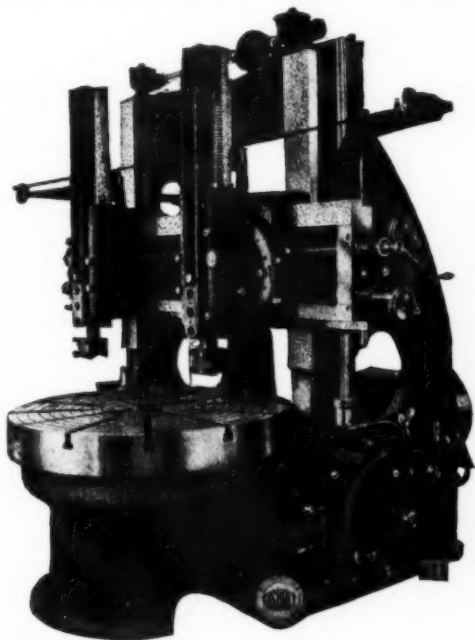
### RADIAL DRILLS:

- 3' American, 3' Cincinnati-Bickford, 6' Drees, 6' Baush.

# DAVIS, HOY & STUMPF

149 Broadway, New York City

# Another Special



1—SLIGHTLY USED 64" Gisholt Heavy Duty Vertical Boring Mill, 2 swivel heads, rapid power traverse, full quick change, including a 220 volt direct current variable speed motor and controller. Table is 60" in diameter by 7" thick. Exceptionally fine condition.

**DAVIS, HOY & STUMPF**

**149 Broadway, New York City**

# **FOR SALE** *SECOND-HAND* **LATHES**

24"x12' Boye & Emmes Gear Box,  
Double Plate Apron.

24"x14' Boye & Emmes Gear Box,  
Double Plate Apron.

24"x16' Boye & Emmes Gear Box,  
Double Plate Apron.

22"x14' Greaves & Klusman, with  
taper attachment and two  
steady rests. In first-class  
condition.

**THE**  
**Boye & Emmes Machine Tool Co.**  
**2245 Spring Grove Ave.**  
**CINCINNATI, OHIO**

## NEW 3 PHASE MOTORS CHEAP. 3 H. P. \$57.50; 5 H. P. \$67.50

### LATHES

9" to 13" Barnes, h. s., cp. r., new.  
12"x 5' Cleveland, geared head.  
14"x 8' Young.  
14"x 6' Hamilton, grd. hd., motor dr.  
14"x 6' Monarch, quick change.  
14"x 8' Sidney, double back geared.  
16"x 8' Sidney, double back geared.  
18"x10' American, quick change.

18"x 8' Bradford, h. s., steady rest.  
20"x10' Prentice, taper.  
20"x10' Hamilton, rapid production.  
24"x24' Prentice, with raising block.  
28"x12' Sidney heavy duty.  
28"x 8' Bridgeford, heavy duty.  
Ames precision bench,  $\frac{1}{2}$ " & 1" cap.  
8x60" & 10x72" Fitchburg Lo-Swing.

### TURRET LATHES and SCREW MACHINES

14" Tilted turret hand screw mche.  
1" and 1 $\frac{1}{2}$ " Mulholland.  
2x24 & 3x36 J. & L., dbl. equipment.  
No. 3-B Foster, 5" capacity, new.

6" Gridley auto., single spindle.  
Nos. 82 and 56 National Acme.  
 $\frac{1}{2}$ " P. & W. automatic, single spdl.  
21" Gisholt.

### SHAPERS

14" Niles, traveling head.  
14" Steptoe, crank.  
16" American, tool room.

16" & 24" Barker, b. g. crank.  
16" O. & S. b. g. crank, new.

### PLANERS

24"x24"x 6' Gray.  
32"x32"x 8' Gray.

36"x36"x18' Pond.  
60x60x17' Betts, 2 heads.

### PRESSES

Nos. 3-A & 6-A Willard inclinable.  
No. 1 Toledo inclinable.  
Nos. 13, 2, 24 & 4 Robinson.

Emco, bench, for radio parts.  
No. 35 Niagara straight side.  
Perkins, dbl. housing, wt. 4,000 lbs.

### DRILLS and RADIALS

3 $\frac{1}{2}$ " Silver, sgl. pulley, gear box dr.  
3 & 4 $\frac{1}{2}$ " Morris plain gear box.  
3 $\frac{1}{2}$ " Canedy-Otto plain, new.  
4" Universal Radial Drill Co. plain.  
Electric drills, Black & Decker.

22", 24", 26", 28" and 32", sliding hd.  
20"-24" & 26" Barnes, all geared.  
4-spindle Sigourney sensitive.  
4-spindle Reed sensitive.  
Electric drills, Thor, all sizes.

### MILLING MACHINES

No. 2 Kempsmith universal.  
U. S. and Whitney hand.  
No. 25 Becker plain, power feed.  
No. 3 Kempsmith univ. and plain.  
Nos. 2-A & 4-B Becker vertical.

No. 3 LeBlond, with vertical attach.  
No. 2 H Brown & Sharpe plain.  
Briggs type "A" high duty, 24x8 table.  
No. 7 Becker Lincoln type.  
Oesterlein 24x7x18 plain.

### GRINDERS

Nos. 1, 3 & 78 W. & M. surface.  
No. 2 W. & P. 10x30 universal.  
6"x15" Fitchburg plain.  
12x36 Cincinnati universal.  
12x42" & 16"x30" Landis plain.  
12"x73" Brown & Sharpe plain.  
36" and 66" Yates plate.

Perfection cylinder.  
No. 60 Heald cylinder.  
Nos. 2 & 3 Ohio universal & tool.  
No. 4 Gardner 20" double disc.  
No. 20 Bryant, chucking.  
B. & S. No. 24 dbl. spdl., cylinder.  
Capital internal, new, 2"x2".

### MISCELLANEOUS

Band saw, metal, Klemm.  
Band saws, Napier 4"x4", 10"x10".  
Bending rolls,  $\frac{1}{2}$ " for  $\frac{1}{2}$ " plate.  
Boring mill, Colburn No. 3, tur. hd.  
Boring mill, 54" & 60" Colburn, 2 hds.  
Brake, 10", 18-gauge metal.  
Broaching machine, No. 3 LaPointe.  
Cold saw, Burr, 3" capacity.  
Compressors, 5x4, 8x8 and 12x10.  
Drawing tables, adjust., 42"x6" top.  
Gear cutter, 26" No. 3 B. & S.  
Gear millers, Bilton No. 1, (5).  
Hammer, 40 lb. Bradley, helve.  
Hammer, 150 lb. Standard drop.

Oil separator, Springfield.  
Pipe machines, 2", 4", 6" & 12".  
Pumps, Gould triplex, 6x8" & 7x8".  
Punch & shear  $\frac{1}{2}$  by  $\frac{1}{2}$ , 10" throat.  
Riveting hammers, No. 3-A h. sp.(2).  
Scale, 1500 lb. Toledo, dial type.  
Scleroscope, Shore.  
Shear, 5' Robinson, for 10 gauge.  
Shear, No. 20 Quickwork, 30" throat.  
Shear, circular, Pettingell 60".  
Slotter, 18" Bement-Miles.  
Tapping mche.,  $\frac{1}{2}$ " Rickert-Shafer.  
Tapping machine, Acme 6-spindle.  
Threading mche., W. & P. 2-spindle.

**THE OSBORNE & SEXTON**  
**MACHINERY COMPANY**  
**COLUMBUS OHIO**

DEPT. H.

101

# Quitting Business

## Everything for Sale — No Reservations

Air Compressor, belted, Chicago 9"x11", belt drive.  
Air Compressor, steam driven Imperial 10, 2-stage Duplex 888 cu. ft., steam ends 12"x16"; air 19"x16" & 12"x16"; 90%.  
Air Compressor, steam, Ingersoll-Rand, 1000 cu. ft. single stage.  
Bending Rolls, Niles Pyramid Type, capacity 1" plate 12' wide.  
Bending Rolls, No. 7 Bertsch, angle, power driven.  
Bolt Cutter, Landis, single spindle, 1" capacity, with dies.  
Bolt Cutter, Acme 2-spindle, 1" capacity, complete with dies.  
Bolt Cutter, Landis 2-spindle, 1" capacity, with dies.  
Boring Mills, Baush 60" 2-heads, screw cutting, cone driven.  
Boring Mills, Bullard 36", New Era Vertical Turret Lathe, 85%.  
Bull Riveter, 108"—62 ton, 1" capacity, Pedrick & Ayer.  
Butt Welder, Federal 65 KW, 3-phase 60-cycle 440-volts.  
Butt Welder, Winfield 20 KVA, 3-phase 60-cycle 440-volts.  
Cutting-Off Machine, Hurlbut-Rogers, 4" capacity, 95%.  
Cranes, Toledo 30" span; 2-5 ton and 1-7½-ton, 3-ph. 60-cyc. 440-volt.  
Gear Cutter, Gould & Eberhardt 36", single vertical cutter.  
Grinder, Diamond Heavy Face Grinder, 84", arranged motor drive.  
Grinder, No. 60 Heald Cylinder Grinder.  
Grinder, Norton plain 14"x72", standard equipment.  
Grinder, Norton plain 10"x52", standard equipment.  
Grinder, Norton 22"x34"x120", crankshaft.  
Grinder, Bath universal No. 2½.  
Hydraulic Press, Metalwood No. 20 Forcing.  
Hydraulic Press, Defiance Rim No. 4, 60-ton.  
Lathe, 24"x12" Whitcomb-Blaisdell, compound rest.  
Lathe, 24"x10" Boye & Emmes, compound rest.  
Lathe, 20"x10" Hendey, compound rest.  
Lathes, 24"x12" American, 3-step cone, d. b. g., with chucks, 90%.  
Lathe, 36"x18" Lodge & Shipley Patent Head, compound rest.  
Lathe, 36"x18" Lodge & Shipley Heavy Duty Geared Head, motor drive.  
Lathe, 36"x20" New Haven, compound rest, 5-step cone, cheap.  
Lathe, Low-Swing 4"x108", two carriages, 90%.  
Lathe, 23" swing Gisholt Turret.  
Lathes, J. & L. 2"x24" and 3"x36".  
Lathe, 18"x10" Boye & Emmes, 3-step cone, d. b. g., 90%.  
Milling Machine, No. 3 Universal Cincinnati.  
Pit Lathe, 84" swing, very cheap.  
Radial Drill, 3' Prentice, with taper.  
Radial Drill, 4' American, gear box drive, with tapping attachment.  
Radial Drill, 4' Fossdick & Holloway, cone drive, tapping attachment.  
Radial Drill, 3' Hammond, gear box drive, tapping attachment.  
Shaper, 24" Queen City, very good condition.  
Upsetter, Acme 1½", steel bed, will sell cheap.

Have a lot of Woodworking Machinery and Foundry Equipment; Electric Motors 5 to 50 h. p., 3-phase, 60-cycle, 220 or 440 volt; also large stock High Speed Twist Drills, Taps, Reamers, etc., new and used.

*If what you want is not listed, write us, as we probably have it*

## Aultman & Taylor Machinery Co.

Manufacturers of Farm Implements

MANSFIELD, OHIO Phone—Canal 1261



## LATHES

- 36"x22' Putnam, t. g., semi-q. c.  
 32"x12' Lodge & Shipley, q. c. g.  
 30"x16' Houston, Stanwood & Gamble, q. c. g.  
 27"x18' LeBlond hvy. duty, q. c. g.  
 28"x36"x14' Putnam q. c. g., sliding bed extension gap lathe.  
 24"x14' LeBlond, q. c. g.  
 22"x10' Hamilton, semi-q. c. g.  
 20"x 8' Hendey, q. c. geared head.  
 20"x10' Bradford, standard change, heavy duty.  
 18"x 8' Lodge & Shipley, q. c. g.  
 16"x 8' Hendey, q. c. geared head.  
 16"x 6' Monarch, q. c. g.  
 14"x 8' Hamilton, q. c., tool room, with taper, collets, and relieving attachments.

## TURRET LATHES

- No. 3-A Warner & Swasey Univ. Hollow Hexagon Turret Lathe, grd. head.  
 No. 1-B Foster Univ. Hollow Hexagon Turret Lathe, geared head.  
 No. 6 Warner & Swasey Univ. Turret Screw Mche., frict. hd., cone pulley.  
 No. 4 Millholland Universal Turret Screw Machine, geared head.  
 13" Gisholt Turret Lathe, cone pulley.

## MILLING MACHINES

- No. 2 Cincinnati univ., cone pulley, complete.  
 No. 3-B Heavy B. & S. pl., sgl. pul.  
 No. 3 Cinti hi-pwr. pl., sgl. pulley.  
 No. 3 Cincinnati plain, cone pulley.  
 No. 3 Kempsmith pl., cone pulley.  
 No. 2-B B. & S. plain, sgl. pulley.  
 No. 2 Cincinnati plain, cone pulley.  
 No. 1-B Milwaukee (Kearney & Trecker) plain, single pulley.  
 No. 6 Whitney hand.  
 No. 2 Cinti hi-pwr. vert. sgl. pulley.  
 No. 5-C Becker vert., cone pulley.  
 25" Cinti semi-auto. duplex, belt dr.

## RADIAL and UPRIGHT DRILLS

- 5' American Tool Works Plain Radial Drill, gear box.  
 4' Fostick Plain Radial Drill, gear box, 95% new, very late type.  
 3' Western Plain Radial Drill, gear box drive.  
 24' Cincinnati-Bickford Plain Radial Drill, gear box drive.  
 4' Hammond High Speed Sensitive Folding Arm Radial, belt drive.  
 26" Aurora Upright Drill Press, with tapping attachments.  
 26" Rockford Upright Drill Press.  
 24" Cincinnati-Bickford Upright Drill Press, gear box drive, tapping attach.  
 23" Rockford Upright Drill Press, with tapping attachment.  
 22" W. F. & J. Barnes Upright Drill Press.  
 20" W. F. & J. Barnes 4-spindle gang, with auto. approach and return feed.  
 14" Avey High Speed Ball Bearing Sensitive Drill Press.  
 2-spindle Allen High Speed Ball Bearing Sensitive Drill Press.

## GRINDERS

- No. 60 Heald cylinder, complete equipment.  
 No. 70 Heald internal chucking.  
 Capital internal chucking, collet att.  
 Rivett internal chucking.  
 No. 14 Cin'ti univ. tool & cutter.  
 No. 3 Oakley universal too. room, power feed.  
 Universal Machine Co. universal surface, with power feed.  
 6"x18" Landis plain cylindrical.  
 No. 11 Brown & S. pl. cylindrical.

## MISCELLANEOUS

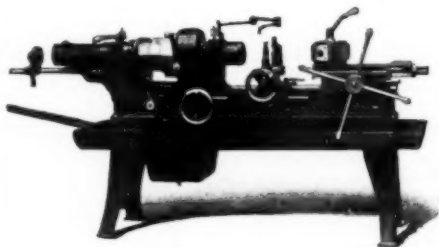
- Air compressor, 8" x 8" Chicago Pneumatic, cap. 139 cu. ft. per min.  
 Arbor press, No. 5 Atlas, comp. grd.  
 Bolt cutter, 1" Landis, belt drive.  
 Boring mill, No. 21 Lucas, single pulley, 24" bar.  
 Brake, 8' Robinson, hand power.  
 Brake, 8' Dries & Krump, power.  
 Broaching mch., No. 3-B LaPointe, late type, dbl. fric. pulley drive.  
 Gear cutter, No. 12 Brown & Sharpe auto. spur and bevel.  
 Gear cutter, 36" No. 4 Brown & S. auto. spur.  
 Gear hobber, 24" Schuchardt & S.  
 Hammer, 30" Bradley upright, compact rubber cushioned, belt dr.  
 Keyseater, No. 1 Davis, cap. 1/16"-1"  
 Hammer, helve, 50 lb. Bradley, rubber cushioned.  
 Keyseater, No. 00 Baker, cap. up to 1"  
 Pipe mch., 4" Jarecki, pwr., bt. dr.  
 Planer, 30"x30"x8' Gray, 1 hd., bt. dr.  
 Planer, 42"x36"x10' Am. T. Wks., 1h.  
 Press, power forcing, 15-ton Lucas.  
 Press, No. 34 Toledo, o.b.i., power.  
 Press, punch, No. 3-G Michigan, b.g.  
 Shaper, 16" Queen City, crank.  
 Shaper, 20" Wm. Barker, b. g. crank, brand new.  
 Shaper, 24" Wm. Barker, b. g., crank, brand new.  
 Shear, square, 36" Peck, Stow & W., foot power, 18 ga. and lighter.

*And Many Others. Send for Our Complete List*

# EASTERN MACHINERY CO.

No. 408 East Pearl St.

Cincinnati, Ohio



No. 4 W & S Geared Turret Lathe  
with Auto. Chuck and Power Feed,  
"As is" condition good.....\$600

## Send for W & S List of Surplus Equipment

### *A few examples—*

2-A 3¼ Capacity, "As is" .....	\$ 1800.
No. 6 Turret Lathe, Power Feed to Turret and Cut-off "As is" .....	700.
No. 70 Heald Internal Grinder .....	825.
Elwell Parker Electric Truck .....	550.
12"x5' Hendey Lathe, full equipment .....	575.
No. 3 B & S Vertical Milling Machine .....	900.

## The Warner & Swasey Co. Cleveland, Ohio, U. S. A.

New York: Singer Building  
Boston: Chamber of Commerce Bldg.  
Philadelphia: 518 Springfield Ave.  
Chicago: 618 Washington Boulevard  
Milwaukee: 1143 Wells Building

Cleveland: 5701 Carnegie Avenue  
Pittsburgh: Chamber of Commerce Bldg.  
Buffalo: Iroquois Building  
Detroit: 5928 Second Boulevard  
Dayton: 518 Mutual Home Building

San Francisco: 50 Fremont Street

# LIQUIDATION SALE

**Holmes Automobile Company, Canton, O.**

- 2—No. 60 Heald Internal Grinders.
- 1—No. 33 New Britain Automatic 5-spindle, serial 6729.
- 1—42"x20"x20' Fixed Rail Slab Miller, Ingersoll.
- 1—2" Cleveland automatic Screw Machine, Class B, latest type, h. s. drilling attachment, Serial 29694, 95%.
- 1—5A Potter & Johnston Automatic, serial 20679, 90%.
- 5— 9"x20" Porter & Cable Lathes.
- 2—21" Gisholt Turret Lathes.
- 3—Valve Grinders, Misch.
- 4—No. 6 Whitney Hand Millers.
- 3—No. 1 Kent-Owens Hand Millers.
- 1—No. 2 J. N. La Pointe Single Broaching Machines.
- 2—No. 3 Kemp Smith Plain Millers.
- 2—24" Hoefer Sliding Head Drills, b. g., p. f., square tables.
- 4—16" Henry & Wright class K, double spindle B. B. Drills.
- 1—No. 17D Moline 4-spindle Hole Hog Drill, 20" swing.
- 2—4" Hammond B. B. Radial Drills with tappers.
- 1—No. 315 Baker High Duty Drilling Machine.
- 1—No. 2X Garvin Automatic Tapper.
- 1—No. 2 International Vertical Tapper.
- 1—No. 1 W. & S. Screw Machine, a. c., b. feed, p. f. turret.
- 2—1" Millholland Screw Machines, a. c., b. feed, h. f. turret.
- 1—2" Garvin Screw Machine, a. c., b. feed, p. f. turret.
- 1—24"x 8' Bridgeford Chucking Lathe, with hex. turret.
- 1—16"x 6' Fulton Lathe, compound rest.
- 1—20"x 8' Whitcomb-Blaisdell Lathe, q. c. g., compound rest.
- 1—15"x 6' Sidney Engine Lathe, p. f., turret on shears.
- 1—No. 14 Brown & Sharpe Plain Grinder.
- 1—No. 2 Bath Universal Grinder.
- 1—No. 103 Rivett Internal Grinder.

**Electric Japan Oven 12' x 20' x 8' 6", with conveyor 70' centers; Hanna Yoke Riveter; Vises; Belting; and many other machines not mentioned.**

*Write or call at plant for prices and other information.  
Private sale will continue until all equipment is sold.*

**Holmes Automobile Company**

*Liquidation Department*

**Canton, Ohio**

## Special Offerings—

American 4' Radial Drill, motor driven.....	\$1150.
Morris 2½' Radial Drill, s. p. d.....	450.
Burke No. 22 Bench Drills, brand new.....	25.
Henry & Wright single spindle b. b. Drill.....	125.
Allen 2-spindle ball bearing Drill.....	250.
Demco 3-spindle ball bearing Drill.....	400.
Allen 4-spindle ball bearing Drill.....	475.
Hollingsworth 18" Shaper, brand new.....	750.
Gould & Eberhardt 14" Shaper.....	450.
Milwaukee 16"x6' Lathe.....	250.
Walcott 16"x8' Lathe, q. c. g.....	525.
Davis 14"x5' Lathe, q. c. g.....	450.
Cincinnati No. 3 Universal Miller, dividing head.....	1250.
Gray 24"x24"x8' Planer, single head.....	750.

**Louis E. Emerman & Company**

1761 Elston Ave., Chicago, Ill.

## PRICED RIGHT

### Desirable Machines

*With a good-as-new money-back guarantee*

No. 12 Barber-Colman Hobbers.  
 20" Stepto Shaper.  
 Oakley Tool & Cutter Grinder (New).  
 4' American Sensitive Radial.  
 4' Western Radial.  
 No. 22 Natco Drill.  
 36" Colburn Heavy Duty.  
 No. 28 Ohio Plain Miller.  
 10"x36" Norton Plain Grinder.  
 36" Besly Disc Grinder.  
 24x24x6' Powell Planer.  
 2¼—3¼ Cleveland Model A Automatic

**Mid-West Machine Tool & Supply Co.**

321-323 W. Fourth Street,

Davenport, Iowa

# FOR SALE BY

## The Co-Operative Machinery Co.

621 Engineers Bldg., Cleveland, O.

Drill Press, used 10" Winterhoff bench, 1/2" capacity .....	\$ 35.
Drill Press, 2 spdl. ball bearing Allen, good condition .....	225.
Gear Cutter, used D. E. Whiton semi-automatic .....	395.
Grinder, used Detroit Centerless .....	300.
Grinder, used Capital Internal .....	250.
Lathes, three Porter-Cable Mfg., very excellent cond., .....	ea. 295.
Lathe, 14"x6' used Porter Engine Lathe .....	150.
Lathe, used Woods Model C Tilted Turret, plain head, power feed to turret, with 10" Barker wrenchless chuck .....	375.
Lathe, used 13"x8' Willard, double back gear, fine cond. ....	225.
Lathe, new 9"x24" Sundstrand Mfg., gear drive .....	585.
Miller, used No. 2 LeBlond heavy duty Plain .....	590.
Miller, new No. 1 1/2 Rockford Plain .....	950.
Millers, used U. S. Hand Millers, good condition .....	each 120.
Planer, used 30"x30"x6' Gray, 1 head on rail .....	550.
Screw Machine, used No. 1 Garvin Plain, practically new ...	195.

No. 55 National Acme Automatic, serial No. 9293, equipment would include cut-off tool, forming tool, set of cams, set of pads and feed shells, motor driven with 5 H. P., 3 phase, 440 volt, Robbins & Meyers Motor.

No. 55 National Acme Automatic, ditto, serial No. 9290	
No. 55 " " " " " " " "	9606
No. 55 " " " " " " " "	10144
No. 55 " " " " " " " "	7448
No. 55 " " " " " " " "	9069
No. 55 " " " " " " " "	7445

No. 515 National Acme Automatic, motor driven, with 3 H. P. Western Electric Motor, 440 volt, 1800 r. p. m., serial No. 6890, driven with 5 H. P. Robbins and Meyers Motor, 440 volt.

3—Model "A" Cleveland Automatics, used only 60 hours, absolutely like new, complete with all regular equipment.

1—Model "B" Cleveland Plain, serial No. 28034.

No. 53 National Acme Automatic, serial No. 10109, motor driven with 5 H. P. Robbins and Meyers motor, 440 volt.

National Acme Bolt Threader, two spindle, with two No. 36 die hds. Semi-automatic Drill, 3/16" capacity, made by the Auto Sensitive Machine Co.

No. 2 Globe Tapered Hexagon Horizontal Tumbling Barrel, 13 1/2" diameter x24" long, with 8" hand hole.

1—Baush Multiple Spindle Drill, 12 spindles, drills up to 42" circle, No. 4 M. T. in spindle, in fine condition.

# POWER PRESSES

## FOR SALE

### TOGGLES

Nos. 1½, 3½ & 4A Bliss.  
Nos. 166, 168 & 169¼S Toledo.  
Nos. SA175, 184 & 953.  
Ferracute, Double Crank, 72" to  
112" between uprights.

### STRAIGHT SIDE

Nos. 54, 55 & 55½ Toledo.  
Nos. 74 & 75½ Bliss.  
No. 54G Garrison.  
Nos. E5, D73 & D54 Ferracute.

### DOUBLE CRANKS

No. 4B Bliss 42", M. D.  
No. 6J Standard, 44" M.D., new  
No. 165S Consolidated, 41", Fly.  
No. SG86 Ferracute, 64" Grd.  
No. SG87 Ferracute, 99" Grd.  
No. SG79 Ferracute, 100" Grd.  
No. SRG102 Ferracute, 40" Grd.  
No. SRG104 Ferracute, 58" Grd.

**Finest Selection in the Country**

*Write or Wire for Complete List*

## Joseph HYMAN & Sons

Richmond St. and Erie Ave., Philadelphia, Pa.

Phone Regent 7727

# POWER PRESSES

## Inclinable

No. 6 Niagara, 3" stroke, weight 4200 lbs.  
No. 5 Toledo, geared 5" stroke, weight 4000 lbs.  
No. 4 Toledo, 2½" stroke, weight 3000 lbs.

## Straight Side

No. 62 V. & O. geared, 6" stroke, weight 6600 lbs.  
No. 6 Rockford geared, 7" stroke, weight 6000 lbs.  
Perkins Double Crank, 34" bet. uprights, wt. 4200.  
10' Ohl Power Brake, 10 gauge capacity.

*142 Other Presses—Low Prices*

## J. N. MOYER

117 N. 3rd St., :: Philadelphia, Pa.

# Over Three Hundred Items In Stock for Your Selection

## A Few of the Larger Tools:

60" Betts Vertical Boring Mill, 2 heads.....	\$1000.
42" Bullard Vertical Mill, 2 heads.....	800.
26"x26" Niles Lathe, single back gear.....	
24"x24" Niles Lathe, single back gear, hollow spindle.....	
26"x12" Lodge & Davis Lathe, solid spindle.....	375.
30"x11" Pond Lathe, triple geared, cone drive, arranged for motor.....	425.
30"x12" Lodge & Davis Lathe, cone drive.....	360.
36"x16" Fifield, single back gear, 24" chuck.....	875.
40"x16" Niles, triple geared, quick change, with Motor, nearly new.....	1050.
46"x18" New Haven, triple geared, blocks to 62".....	1150.
42"x20" Niles, triple geared.....	1250.
48"x24" Niles, triple geared.....	1450.
48"x28" Niles, triple geared.....	1650.
24" Gisholt Turret Lathe, fine condition.....	325.
28" Gisholt Turret Lathe, fine condition.....	395.
54" Niles Horizontal Boring Mill, 4" bar.....	650.
54" Niles Full Universal Radial.....	950.
64" Niles Full Universal Radial.....	1250.

## LATHES

13"x 8' Willard, compound rest.....	\$ 275.
13"x21"x8' NEW Willard, gap type, regular price \$765, our price.....	520.
14"x 8' Carroll-Jameson, quick change, fine condition.....	325.
14"x 8' Monarch, quick change, nearly new.....	325.
16"x 6' Hendey, overarm, quick change.....	550.
17"x 6' National, quick change.....	250.
19"x 6' Fay & Scott, loose change.....	285.
20"x20' Hamilton, quick change.....	475.

## MILLING MACHINES

No. 2-B Brown & Sharpe, sgl. pulley dr., vertical attach. ..\$ 735.	No. 5 Brown & Sharpe plain...\$ 595.
No. 3 Brown & Sharpe plain .. 455.	No. 2 Brown & Sharpe univ... 470.
	No. 4 Cincinnati, old st. univ. 395.

## DRILLING MACHINES

24" Hoefer, 2-spindle, nearly new.....	\$ 285.
22" Barnes, back gear, power feed, with 220 volt, a. c. Motor.....	155.
42" Bickford Radial, single pulley.....	535.
28" Aurora, sliding head, back gear, power feed.....	230.
28" Aurora, sliding head, back gear, power feed, tapping attach.....	265.
30" Cincinnati-Bickford Radial, tapping, excellent condition, late type.....	800.

## PLANERS

16"x18"x48" Hendey.....	\$ 245.	24"x24"x 6' Gray, fine shape...\$ 645.
36"x36"x12' Woodward & P., 1 head.....	685.	32"x32"x20' Cincinnati, 2 hds.
		42"x42"x26' Cincinnati, 2 hds.

## SHAPERS

14" Rockford cr., nearly new...\$ 250.	16" Hamilton heavy duty.....\$ 395.
16" Stockbridge crank..... 245.	20" Queen City b. g. crank... 595.

## A Real Special for Quick Sale

2" Acme Bolt Cutter, with right and left dies and taps, complete with 220 volt, a. c., 3-phase, 60 cycle Motor. Write for full particulars.

**BOILERS, ENGINES, COMPRESSORS, PUMPS, PUNCHES,  
SHEARS, VISES, LEATHER BELTING, Etc., Etc.**

**Norton-Broadway Machinery Co.**

238 Broadway, Cincinnati, Ohio

# LIQUIDATION

Of The Hamilton Machine Tool Company's equipment will continue until every item is sold. Many good bargains remaining in

Engine Lathes—From 14"x6' to 40"x16'.  
 Metal Planers—All sizes from 24"x24"x6' to 72"x60"x32'.  
 Upright Drilling Mches.—8" & 16" Sen., 24", 32" & 36" Sl. Hd., bk. grd.  
 Radial Drills—5' Fostick, 5' and 6' Hamilton.  
 Milling Machines—Nos. 14 & 15 Garvin, No. 2 Rockford Plain.  
 Automatic Gear Cutting, Hobbing and Shaping Machines—No. 1 Farwell, No. 3—26" B. & S., 36" G. & E., 36" Fellows.  
 Screw Machines and Turret Lathes—Acme, National Acme, Jones & Lamson, Garvin and Gridley, each in several sizes.  
 Grinding Machines—Plain Cylindrical, Internal, Tool and Cutter, Emery Stands and Polishing Machines in a variety of sizes.  
 Woodworking Mchry.—Pattern Makers' Lathes, Jointers, Dbl. Surfacers.  
 Power Plant Equipment—Gardner 12"x12"x12" Steam Driven Air Compressor, Air Tank and Fittings; 30 h. p. Hamilton Corliss Steam Eng.  
 Miscellaneous Machinery, Small Tools and Supplies.

*Printed lists and price lists upon request. Arrangements for inspection may be made through any of our offices or our store at 104 North Second Street, Hamilton, Ohio.*

**THE E. A. KINSEY CO.,** 335 West **CINCINNATI, O.**  
 Fourth Street,

**BRANCHES:** INDIANAPOLIS, IND., HAMILTON, OHIO, DAYTON, OHIO,  
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## COLD HEADERS

### Rivet and Bolt Machinery

- 1—Waterbury Farrell Single Stroke No. 11 Header.
- 1—Waterbury Farrell Single Stroke No. 4 Header.
- 2—Waterbury Farrell Single Stroke No. 3 Headers.
- 1—Waterbury Farrell Planisher—Dial Type.
- 6—Economy Automatic Shavers.
- 1—Economy Automatic Pointer.
- 3—Detroit 5-spindle, semi-automatic drills.
- 1—Bilton Automatic Gear Milling Mch. No. 2½.

Headers are NEW, balance of equipment fine condition

Can be inspected and demonstrated

For Prices and Terms Address

**Keystone Screw Company**

133 So. 4th St., PHILADELPHIA, PA.



# J.J. McCABE SINGER BUILDING NEW YORK CITY

## McCABE "2-in-1" LATHES

Used but rebuilt  
in our own shop

- 25-48" swing, 10' bed.
- 32-54" swing, 14' bed.
- 26-48" swing, 16' bed, large pl. face plate. Price f.o.b. New England.
- 26-48" swing, 22' bed, large pl. face plate. Price f. o. b. Southwest.

## USED "2-in-1" LATHES

McCabe—Former Pattern

- 24-40" swing, 10' bed.
- 26-44" swing, 10' bed.

## NEW "2-in-1" LATHES

12-ft. to 32-ft. Beds

### BIG LATHE

- 66" swing, 42' bed, Putnam triple geared, arranged for motor drive.

A fine tool for the Big Shop  
requiring equipment of  
the better kind

### OTHER LATHES

- 14" sw., 8' bed, Sidney, q. c.
- 15" sw., 6' bed, Sebastian.
- 18" sw., 10' bed, McCabe, q. c.
- 18" sw., 12' bed, Schumacher & B.
- 21" sw., 12' bed, McCabe, q. c.
- 24" sw., 14' bed, Reed-Prentice.
- 26" sw., 14' bed, Niles-Bement-P.
- 32" sw., 20' bed, McCabe, q. c.
- 42" sw., 16' bed, McCabe, geared head, quick change.
- 50" sw., 20' bed, Pond.
- 50" swing, 24' bed, Bement-Miles, triple geared.
- 60" sw., 28' bed, Wickes.
- 84" sw., 46' bed, Putnam, motor-dr.
- 110" swing, 42' bed, Bement-Miles, 8" blocks.

## LARGE BORING MILL

- 96" sw., Niles Vertical Boring and Turning Mill, 2 swivel heads, table 68" diam, 34" height, under tool. Double box cored housings, cone-drive. Rated A1.

## PLANERS

- 84"x60"x30' Pond, 4 heads.
- 72"x72"x24' Niles, 4 heads.
- 54"x54"x12' Pond, 4 heads.
- 48"x48"x15' Pond, 2 heads.
- 36"x36"x12' Gray, 2 heads.
- 26"x26"x 6' Niles, 1 head.

## A FEW OF THE OTHER BARGAINS

- 16" stroke, Smith & Mills Shaper.
- 18" stroke, Ohio Shaper.
- 12" Gould & Eberhardt Gr. Cutter.
- No. 15 Bliss Press.
- 28" Espen-Lucas Cold Saw.
- "IM" Q. & C. Cold Cut-Off Saw.
- 25 lb. Dupont Hammer.
- 50 lb. Little Giant Power Hammer.
- 50" Bullard Boring Mill.
- 42" Baush, motor drive.
- No. 3 Baker Keyseater.
- 24" arm Radial Drill, speed box.
- 4 arm Radial Drill, speed box.
- 24" stroke, Bement-Miles Slotter.
- 8x30 Modern Cylinder Grinder.
- 21" Turret Lathe, Gisholt Gap.
- 3x36" Jones & L. Turret Lathe.
- Horizontal & Vert. Newton Miller.
- 48" bar, Bement-Miles Horizontal Boring Mill.
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- 50" throat McCabe Punch & Shear.
- 60" throat H. & J. Horiz. Punch.
- 10' McCabe Rolls, drop end.
- 14" Acme Bolt Cutter.
- 3-Hack Saws.

### MANY OTHER LARGE TOOLS—

of the kind rarely found on the Used Machinery Market.

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**J. J. McCabe Lathe & Machinery Corp'n**  
SINGER BUILDING - - NEW YORK CITY

# Are You Thinking—

Of installing a Radial Drill? If so, the following machines are REAL bargains:

- 1—2½' Standard type, heavy duty, MUELLER radial drill, gear drive.
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**Prices will arouse interest**

*Write and Satisfy yourself*

**The Mueller Machine Tool Company**

Radial Drills and Lathes

ESTABLISHED 1902

CINCINNATI, O.

## SPECIALS

**THIS MONTH**

**All Tools Guaranteed and Tested**

- 1 Cincinnati Horizontal Production Milling Machine, with adjustable head and tail stock, 4½ ft. table. Guaranteed like new.....\$650.00
- 1 Whitcomb Planer, 6 foot table, 24" wide, single head. Guaranteed good running condition .....\$625.00
- 1 Pratt & Whitney Hand Screw Machine; takes up to ½" stock.....\$125.00

(Subject Prior Sale)

**Good Lathes, Planers, etc.—All Kinds of Tools**

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**National Machinery Mfg. Co., Inc.**

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# SIMMONS

## GUARANTEED

# Machine Tools

*Tested before shipment, and supplied with standard equipment as furnished by manufacturer when new*

### UNIVERSAL MILLING MACHINES

- 2—No. 2 Cincinnati Univ. High Power, all geared, arranged for motor dr.
- 3—No. 3-S Cincinnati Universal, motor drive, table 56"x12".
- 2—No. 3 Cincinnati Universal, high power, table 52"x12".
- 2—No. 3 Kempsmith Universal, double back geared, 3-step cone, 3½" belt.
- 1—No. 2½ Rockford Universal, double back geared, table 58"x11½".
- 2—No. 2 Cincinnati Universal, double back geared, table 46"x10".

### PLAIN MILLING MACHINES

- 5—No. 2-B Milwaukee Double Arm, table 60x13".
- 2—No. 2-B Milwaukee Double Arm, table 47x13".
- 1—No. 2-B Milwaukee, with vertical attachment, table 45½x11½.
- 3—No. 2 Cleveland, single pulley drive, table 50x13.
- 3—No. 1 Cleveland, single pulley drive, table 50x12.
- 2—No. 1 Cleveland, single pulley drive, table 44x12.
- 2—No. 2 Rockford, double back geared, table 50"x11½".
- 1—No. 3-B Brown & Sharpe, single pulley drive, table 57"x15".
- 1—No. 3-B Hendey, single pulley drive, table 56x12.
- 1—No. 3 LeBlond, double back geared, table 53x12.
- 1—No. 5 Brown & Sharpe, cone drive, table 66"x14½.

### VERTICAL MILLING MACHINES

- 3—No. 3 Cincinnati High Power Vertical, all geared, power rapid traverse, motor drive, table 59x13½.
- 1—No. 4 Cincinnati High Power Vertical, all geared, power rapid traverse, motor drive, table 63"x16½".
- 2—No. 15 Garvin Vertical, equip't with three spindles.
- 1—No. 5 Brown & Sharpe Vertical, cone drive, table 64"x15".
- 1—No. 5 Blake-Johnson Vertical, table 40½x13.
- 1—No. 6-C Becker, cone drive, table 49x18.
- 2—24"x24"x20" Ingersoll. Planer Type, five heads, motor drive, equal new.
- 2—36" Continuous, 2 spindles, motor drive.

The above is a list of Milling Machines in our own stock **NOW** at our New York, Albany and Buffalo Warehouses. Of course we have Automatics, Boring Mills, Grinders, Hammers, Keyseaters, Lathes, Presses, Punches, Planers, Rolls, Shapers, Slotters, Upsetters, etc.

*Send your Machine Tool Inquiries to:—*

**Simmons Machine Tool Corp'n**  
**1212 Troy Road, Albany, N. Y.**

# GRINDERS

in good condition—at a fair price

Cutter & Tool, No. 1 LeBlond.  
Cutter & Tool, 24" Ingersoll.  
Double Disc, 18" Ney.  
Double Disc, 20" Ransom.  
Cylinder, Plain, 10"x24" Landis.  
Plain, 14"x50" Norton.  
Crank Shaft, 16"x52" Landis.  
Plain, 16"x72" Landis, with motor.  
Universal, No. 4 Landis.  
Tool Room, No. 1 Bath.  
Hole, No. 6 Bryant.  
Ring, Vertical, 8" Heald.  
Surface, No. 12 Pratt & Whitney.  
Face, 30"x84" Diamond, with motor.

THE E. L. ESSLEY · MACHINERY · CO

551 W. Washington Blvd., Chicago.

78-80 W. Water St., Milwaukee

## REAL BARGAINS—*Write or Wire Us for Details*

Boring Mill, 3A universal horiz.  
Drill Presses, hi. spd. 1, 3 & 4 sp.  
Gear Cutter, 36" B. & S. Auto.  
Gear Shaper, No. 6 Fellows.  
Grinder Plain, 7½x72" B. & S.  
Grinder Plain, 12x36" Cincinnati.  
Grinder Plain, 10x48" B. & S.  
Grinder Plain, 6x15" Ott.  
Gr. Chucking, No. 18 Bryant inter.  
Grinder Internal, No. 75 Heald.  
Radial Drill, 3' American sensitive.  
Lathe, 1'x6' Willard, d. b. g.  
Lathe, 15x6' Champion, d. b. g.  
Lathe, 16x8' Greaves-K. s. b. g.  
Lathe, 17x6' Champion, d. b. g.  
Lathe, 18x8' LeBlond, s. b. g.  
Lathe, 18x8' Lodge & S., grd. hd.  
Lathe, 20x10' LeBlond, d. b. g.  
Lathe, 20x10' Greaves-K., d. b. g.  
Lathe, 24x12' S. B., d. b. g.  
Lathe, 24x16' LeBlond extra hvy.  
Lathe, 30x12' Greaves-K., d. b. g.  
Lathe Turret, 20" Acme pwr. fd.  
Lathe Flat Turret, 2½x26" Acme.  
Lathe Flat Turret, 3½x36" Acme.

Relieving Machine, 9x7" P. & W.  
Miller Hand, U. S., Garvin, Fox.  
Miller Plain, No. 1 Cinti. bk. grd.  
Miller Plain, No. 1½ Cinti. bk. grd.  
Miller Plain, No. 2 Kempsmith, b. g.  
Miller Plain, No. 24 Oesterlein, b. g.  
Miller Plain, No. 0 Steptoe bk. grd.  
Miller Univ. No. 29 Oesterlein com.  
Planer, 22x22x6' one head.  
Planer, 30x30x10' Cinti., 2 heads.  
Planer, 36x36x18' Cinti., 4 hds.  
Planer, 36x36x10' Gray, 2 hds.  
Planer, 36x36x10' Am., 2 hds.  
Planer, 42x36x16' Cinti. 4 hds.  
Screw Mche. Hand, 1" Stenotype.  
Screw Mche. Hand, 1" P. & W.  
Screw Mche. Auto., 1" Cleveland.  
Screw Mche. Auto., 1" Cinti. 5 sp.  
Screw Mche. Auto., 1" Cleveland.  
Screw Mche. Auto., 2½" Cleveland.  
Screw Mche. Auto., 3" Gridley.  
Screw Mches. Auto. Nos. 52, 55,  
56, 4 spindle National Acme's.  
Screw Slotter, Brown & Sharpe.  
Tapper, Webster & Perka 5 spdle.

\*CINCINNATI AUTOMATIC MACHINE CO., Cincinnati, Ohio

Brown & Sharpe Universal 3-A Heavy, 80%...	\$ 875.
Warner & Swasey No. 6 Turret Lathe, 85%...	575.
Cincinnati-Acme 3¼"x36" Turrets, 85%.....	575.
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Bullard 24" Vertical Turret Lathe, 80%.....	1050.
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Oesterlein No. 3 Universal Grinder, 85%.....	350.
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Becker No. 6 Vertical Miller, 80%-85%.....	950.
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Niagara No. 416-C Slitting Shear, 85%.....	575.
Sellers 15" Slotter, 75-80% .....	525.
Porter Lathe 20"x10' Loose Gear, 75-80%....	275.
20 Tumbling Barrels 20"x40", Per Set.....	300.

**75 PRESSES**  
and  
**Hundreds of Other Machine Tools**  
**In Stock**

**D. C. OVIATT & CO.**

1102 St. Clair Avenue,

Cleveland, Ohio

- 1—MORRIS 4' Plain Radial Drill with motor on arm, practically new, including motor and starter .....\$2450.  
 1—MORRIS 18"x10' quick change, 3-step cone, dbl. bk. grd. Lathe, with taper attachment, first class condition..... 1000.  
 1—MORRIS 16"x8' qk. ch., Grd. Head Lathe, can be arranged for motor or countershaft drive, practically new..... 1100.  
 1—MORRIS 22"x10' 3-step cone, d.b.g., semi-qk. ch. Lathe, A-1 950.  
 1—LeBlond 24"x12' quick change, 3-step cone, double bk. grd. Lathe, with belt shifter, first class condition..... 1150.  
 1—Bickett 42"x42"x20' 2-hd. Planer, arr. for mtr. dr., including a variable sp. 20 h.p. mtr., 220 v., d. c. Has never been used. 5000.  
 1—Warner & Swasey Hand Screw Machine, cone drive, back geared, with oil pump, first class condition..... 300.  
 1—Dreses 1" cone dr. Hd. Screw Mch., oil pump & collets, A-1. 200.  
 1—18"x8' Chard 3-step cone semi-qk. ch. Lathe, good cond.... 500.  
 1—14"x8' Monarch cone drive d. b. g., q. c. Lathe, good cond.. 175.  
 1—4"x20" wide Faced Grinder, first class condition..... 250.  
 2—Lincoln Millers, Type 10, rapid traverse to table, good, ea... 300.  
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 1—Webster & Perks 5-spd. Nut Tapper, first class condition... 200.  
 1—MORRIS Horiz. Drilling & Boring Mch., t. a., pract. new 1500.  
 1—Thompson Elec. Butt Welder, Type 6, 230 v., sgl. ph., A-1. 900.  
 2—4" 4-spd. Gridley Automatics Nos. 2997 & 2765, with extra equipment, good condition, each..... 500.  
 2—14" 4-spd. Gridley Autos, Nos. 6102 & 6103, extra equip., good cond., arr. for motor dr., including 5 h.p., a. c., 220 v. mtr., ea. 850.  
 1—14" 4-spd. Gridley Automatic, pract. new, extra equip. arr. for motor drive, including 7½ h. p., a. c., 220 v. motor..... 1500.

**The Morris Machine Tool Co.,** Cincinnati, Ohio

## Good Used Tools

2 Spindle (12" overhang) ALLEN H. S. B. B. Drill Press.

4 Spindle (12" overhang) ALLEN H. S. B. B. Drill Press.

12"x5' VERNON Q. C. G. Lathe with taper, like new.

20"x10' MONARCH Q. C. G. Lathe.

3½"x60" LO-SWING Lathe.

Type B BRIGGS Milling Machine—34" feed.

Type B BRIGGS Milling Machine—42" feed.

No. 2-B MILWAUKEE Universal Miller, complete equipment.

72"x56"x14' GRAY Planer, 2 heads.

**Stocker-Rumely-Wachs Co.**

117 N. Jefferson St.,

Chicago, Ill.

# BARGAINS

Upsetter, 1½" Acme, steel bed.  
Ingersoll, Planer Type Millers, all sizes.  
Radial Drill, Western 5'.  
Bolt Cutter, all sizes, Acme, National and Landis.  
Toggle Press, Toledo No. 268¼, weight 175,000 lbs.  
Press, Toledo No. 95-C, weight 48,000 lbs.  
Press, Toledo No. 169¼, 26" stroke.  
Press, Bliss Double Crank, No. 8-A.  
Toggle Drawing Press, Bliss No. 14-B.  
Press, Toledo No. 58½, weight 40,000 lbs.  
Hendey Lathes, Geared Head, Motor Drive, tapping attach., 16"x6'.  
American Lathes, Geared Head, Motor Driven, tapping att., 16"x8'.  
Libbey Lathes, 18", Air Chucks, A-1 condition, cheap.  
Cutting-Off Machine, Hurlburt-Rogers, 4" & 5" capacity.  
48x48x14 Woodward Powell Planer.  
48x48x14 Cincinnati Planer.  
Boring Mills, King 42" and 52" King, motor driven.  
Boring Mills, 54" Bullard, motor drive.  
Boring Mill, 60" Baush, A-1 condition.  
Grinders, Landis 16x48 and 16x68, like new.  
Openside Planer, 36x36x10' Detrick & Harvey.  
Punches and Shears, all sizes.  
Lennox Rotary Shear, 1" capacity.  
Traveling Cranes, all sizes.  
36" Oliver Band Saw—like new.  
48"x48"x14' Gray Planer, three heads, belt drive.  
36"x36"x10' Pond Planer, three heads, belt drive.  
36"x36"x10' Gray Planer, three heads, belt drive.  
Shaper and Milling Machine, Morton, cap. 70" horizontal travel,  
48" vertical travel, 60" spindle travel.  
Gear Planer, Gleason, cap. 10' Spur Gears, motor driven.  
Boring Mill, Horizontal, No. 770 Niles, vertical travel 30", spindle  
travel 75", 5½" bar; will bore hole 6' long with variations  
less than .003".

**Six Hundred Additional Machine Tools in Stock**

*Mail us your inquiries, address—*

**D. M. Osborne Machinery Company**

**P. O. Box 853, Station "H"**

**Cleveland, Ohio**

# ReMANUFACTURED -(ORIGINATED BY US)- MACHINE TOOLS

REG. U. S. PAT. OFF.

In our stock we have more than 2000 high grade machine tools ready for immediate delivery. All are bargains and every one is guaranteed. Write for our latest complete "Green List" and prices.

## LATHES

- 2-13"x 8' Willard.
- 2-14"x 6' Rockford.
- 1-14"-16"x 8' Lodge & Shipley.
- 5-18"x 8' Boye & Emmes.
- 30-20"x 8' American.
- 14-28"x 8' LeBlond.
- 5-20"x12' American.
- 5-20"x16' American.
- 20-21"x10' LeBlond.
- 10-24"x11' Cisco.
- 3-24"x12' Providence.
- 1-24"x15' Chard.
- 1-24"x24' Lodge & S. selective hd.
- 7-25"x10' LeBlond.
- 10-25"x12' LeBlond.
- 24-28"x10' Canada.
- 10-28"x18' Bridgeford.
- 18-32"x12' Pittsburgh.
- 1-36"x18' Putnam geared head.
- 4-36"x30' Pittsburgh Geared Hd.
- 3-36"x37' Niles Bement Pond.
- 1-51"x20' LeBlond.
- 1-56"-64"x18' Johnston.
- 1-60"x18' Johnston.

## MILLERS

- 2-No. 1B Milwaukee.
- 5-No. 2 Kempsmith.
- 3-No. 2 Rockford.
- 2-No. 28 Ohio.
- 6-No. 2-B Hvy. Brown & Sharpe.
- 4-No. 3 Kempsmith.
- 9-No. 3-B Hvy. Brown & Sharpe.
- 1-No. 3B Milwaukee, Universal.
- 2-No. 4 Cincinnati.
- 2-No. 4 LeBlond.
- 3-No. 4-B Becker.
- 2-No. 3 Cincinnati Vertical.
- 2-No. 4 Cincinnati Vertical.
- 4-No. 5-C Becker.
- 3-No. 6 Becker.

## BORING MILLS—Vertical

- 2-24" Bullard "New Era."
- 1-42" Gisholt.
- 1-44" Niles Bement Pond.

## BORING MILLS—Vertical—Cont.

- 1-48" Gisholt.
  - 3-52" King.
  - 1-54" Bullard.
  - 2-62" King.
  - 3-72" Cincinnati.
- ## BORING MILLS—Horizontal
- 3-3" Foote-Burt.
  - 1-No. 3A Universal.
  - 1-No. 3 Rochester Floor Borer.

## DRILL PRESSES

- 1-20" Barnes all geared.
- 1-34" Barnes.
- 1-36" Snyder.
- 1-No. 24 Foote-Burt.
- 1-No. 25 Foote-Burt.
- 6-No. 23 2-spld. Henry & Wright.
- 1-3-spindle Henry & Wright.
- 4-6 spindle Allen.

## PLANERS

- 1-24"x24"x 6' American.
- 1-24"x24"x 6' Liberty.
- 2-38"x36"x10' Bickett.
- 1-36"x36"x12' Woodward & P.
- 3-36"x36"x18' Cincinnati.
- 3-42"x42"x10' Gray.
- 1-72"x56"x36' Cincinnati.

## GRINDERS

- 3-6"x18" Landis.
- 12-10"x36" Norton.
- 3-10"x72" Norton.
- 3-12"x26" Modern.
- 11-14"x50" Norton.
- 1-16"x72" Norton.
- 1-18"-30"x96" Norton Gap.

## PRESSES

- 2-No. 4 Walsh.
- 1-No. 32 Toledo Solid Back.
- 1-No. 34 Toledo Solid Back.
- 1-No. 744 Bliss Geared.
- 1-No. 754 Bliss Geared.
- 1-No. 93-A Toledo Double Crank.
- 1-No. 94-F Toledo Double Crank.
- 1-No. 69 Stoll Geared.
- 1-No. 87 Bliss Geared.

*Our Guarantee: Your money back if you return a machine within thirty days, freight prepaid.*

**HILL, CLARKE & CO. of CHICAGO,** 649 W. Washington Blvd., CHICAGO, ILL.

HMTB-1-BTG



# LARGEST STOCK IN THE EAST

## New and Used High Grade Modern MACHINE TOOLS

*Guaranteed At Prices to Net You a Worth While Saving*

### BORING MILLS

- 4-Bullard 24" New Era type, vert.
- 1-Bullard 61" maxi-mill.
- 2-Niles-Rement-Pond 52", vert.
- 1-Landis No. 35 horiz., floor type.
- 1-Gisholt 72" vertical, 2 heads.

### DRILLS—Upright and Radial

- 12-New 24" Sibley upright.
- 1-Minster D-3, heavy duty.
- 1-2½ Mueller Radial, S. P. D.
- 1-Foote-Burt 4½, 4-spindle, rail.
- 2-New Turner No. 3, vert. turret.
- 1-N.-B.-P. 9½" Ridgeway, motor drive, plain radial.
- 1-Western 6", plain radial.
- 1-Baush 6".

### DRILLS—Multiple Spdl., Rect. Head

- 1-Natco No. 14, q. c. g.
- 1-Natco No. 30, 12 spindle.
- 2-New Baush No. 3, 21 spindle.
- 1-New Baush No. 4, 56 spindle.
- 1-Fox, 6 spindle.

### PLANERS

- 7-Putnam 26x26x8', 2 heads.
- 1-Woodward & P. 36x36x12', 4 hds.
- 1-Putnam 48"x48"x12', 2 hds. m. d.
- 2-Cleveland 36x36x8 opens'e, NEW.

### LATHES

**New Star Lathes, all sizes with all attachments.**

- 12-New South Bend 16x8 and 18x8 gap; 21x11.
- 10-New South Bend 18x5.
- 2-Hendey 20x7, geared head.
- 2-Hendey 14x6, with taper.
- 1-Walcott 26x14, 6", q. c. g.
- 1-Johnson 30x12, motor dr.
- 1-Bridgeford 36"x42" (raised to swing 60").

### GRINDERS

- 1-Blanchard No. 10, motor driven.
- 1-Springfield-B., 12x12x48 vert.
- 1-Brown & Sharpe No. 14 plain.
- 16-Cincinnati No. 2, 12x36.
- 4-Norton 6x32 & 2-Norton 10x36.
- 1-Fitchburg 12x54.
- 1-Norton 16x36.
- 4-Heald Nos. 60, 65 & 70.
- 2-Heald rot. sur. Nos. 210, 255.
- 1-Blanchard No. 16, motor dr.

### SHAPERS and SLOTTERS

- 3-New 16" Davis, s. p. d.
- 1-American, 28".
- 1-Newton 10" slotter.
- 1-Pratt & Whitney 10" slotter.

### MILLERS—Plain, Mfg., Univ. & Vert.

- 1-Brown & Sharpe No. 2 plain.
- 1-Milwaukee No. 3-B universal.
- 1-Milwaukee No. 1½-B vertical.
- 1-New Rockford No. 2½ universal.
- 1-Cincinnati No. 2 univ., s. p. d.
- 2-Briggs type B.
- 2-Taylor & Fenn vertical.
- 1-Becker No. 4-B and No. 8-C vert.
- 1-Becker 'C.' vertical.
- 1-Becker No. 2-H, vertical.
- 1-Newton No. 1 duplex.
- 1-Pratt & Whitney 6x80 thread.

### GEAR CUTTERS

- 2-Barber-Colman No. 3.
- 4-Hercules 8".
- 2-Brown & Sharpe 3x26.
- 1-Brown & Sharpe No. 13.
- 1-Gould & Eberhardt 60", spur.
- 1-Fellows Nos. 61, 6 & 612.
- 1-Gleason 6", 11" & 18", bevel.

### TURRET & SCREW MCHS.

- 1-Foster No. 1-B turret.
- 1-Warner & Swasey No. 3-A.
- 3-Foster No. 2-B turret.
- 1-Warner & Swasey No. 4, p. f.
- 1-Warner & Swasey No. 2, p. f.
- 3-W. & S. No. 2-A, bar fd. turret.
- 10-Warner & S. No. 1, wire fd. tur.
- 1-New Foster No. 10 turret.
- 4-Greenlee, 2½x26" turret.
- 4-J. & L. 2x24.
- 1-J. & L. 2-spindle turret.
- 1-J. & L. 3x36", flat.
- 1-Acme 1½" turret.
- 2-P. & W. 1x14 screw.

### AUTOMATIC SCREW MCHS.

- 8-New Britain No. 24.
- 2-Cleveland 2½" Model A.
- 15-Cleveland ½" to ¾" capacity.
- 1-Cleveland ¼" to ½" capacity.
- 1-Cleveland 7½".
- 7-Gridley 4-spindle, cap. 14".

### PRESSES

- 2-Toledo No. 53, flywheel.
- 4-Toledo No. 55 & No. 55½, grd.

### MISCELLANEOUS

- 1-Acme bolt cutter, 3" cap., motor.
- 1-National bolt cutter, 2-spdl., 1".
- 1-Landis 1½" bolt cutter, dbl. hd.
- 1-Landis 1½" 3 sp. mtr. dr., bolt cut.
- 1-Erie 1100 lb. hammer.
- 1-Quickwork No. 4-B rot. shear.
- 1-New Quickwork No. 6 rot. shear.
- 1-Bliss No. 109 Slitter.

### PARTIAL LIST—

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**MOREY AND CO. INC.** 408 Broome St., NEW YORK, N. Y.

# Executives, Attention!

## FORGING MACHINERY

- BULLDOZERS:** Williams & White No. 2 & No. 4, belt drive.
- HAMMERS:** Bradley Helve, 25, 60 and 80 lb.  
Bradley Upright Strap, 75 and 100 lb.  
Bement-Miles Single Frame Steam Forging,  
800 and 2000 lbs.  
Bement-Miles Steam Drop, 1500 lb.
- PUNCH & SHEAR:** King Bridge Co. 30" throat, 1" x 1".  
Long & Allatatter D. E. Nos. 6 & 7.
- SHEARS:** Hilles & Jones No. 3 Guillotine, arranged for  
motor drive. Capacity 8" x 1 1/4" or 2 1/2" square.  
Pusey & Jones Guillotine, belt drive, capacity  
3" square.  
Carlin Alligator, 1 3/4" Capacity.
- UPSETTER:** Acme 3/4" Steel Bed.

**It's the value you receive for your money  
that should interest you in these tools.**

## HEAVY MACHINE TOOLS

- BORING MILLS:** Pond-Plainfield 84" Vertical, 2 swivel heads,  
table 72" x 6 1/2". Distance under rail 52". Belt  
drive.  
Niles Tool Works 90" Vertical, 2 swivel heads,  
table 72" x 6 3/4". Distance under rail 58". Belt  
drive.  
Niles 10' Vertical, 2 Swivel Heads, table 82" x 6".  
Distance under rail 80". Belt drive.  
Detrick & Harvey Horizontal Boring, Drilling  
and Milling Machine, bar 5" dia.
- LATHES:** Johnson 50" x 49' 6" Triple Geared, belt drive,  
40' between centers. 6" Raising Blocks,  
which increase the swing to 62". Weight  
about 56000 lb.  
Putnam 52" x 25' Triple geared, arranged for  
direct motor drive with 20 H. P. Variable  
Speed Motor, 375/1500 R. P. M., 230 Volts,  
D. C. Weight about 39000 lb.
- TURRET LATHES:** Jones & Lamson 2 1/4" x 24" and 3" x 36" Flat Tur.  
Gisholt 24" x 6', with 6 1/4" hollow spindle.
- PLANERS:** Pond 48" x 48" x 22', 2 rail and side heads. Table  
36" wide, 7" thick. Weight about 43000 lb.  
Cincinnati 36" x 36" x 12', 1 rail and 1 side head.

## RUSSELL MACHINE COMPANY

28th St. & A. V. R. R., PITTSBURGH, PA.

# USED

## BORING MILLS

- 24" Bullard vertical turret lathes, New Era (3).
- 30" Bullard, 3-jaw chkl., mtr. dr. (2).
- 34" Rogers, grd. feed, motor drive.
- 42" Baush, 2 swivel hds., pl. tbl., m.d.
- 42" Bullard rap. prod., 2 swiv. hds.
- W. F. & J. Barnes horiz. drilling & boring (2).

## DRILLS

- No. 3 Avey, power feed.
- 20" Prentice, lever feed.
- 20" W. F. & J. Barnes, wheel and lever, power feed. (3).
- 21" Cincinnati, sliding head, b. g., p. f., tapping.
- 23" Rockford sliding hd., back grd., power feed, (3).
- 24" Kern, b. g., pwr. fd., tapping.
- Colburn No. D-5 heavy duty.
- Natco No. 14 Multi-Driller, bored for 22, equip. with ten 1 1/2" spdl.

## RADIAL DRILLS

- 3" American, pl., gr. box, swg. table.
- 3" Prentice plain, box table.

## GANG DRILLS

- 4-spdl. 20" Barnes, w. & l., pwr. fd.
- Moline No. 6-D, 24" rl., 8 BV-14 hds.
- Moline No. 7, 24" rail, 4 No. 28 hds.
- Moline No. 11-D, 5" rl., 8 BV-14 hds.
- Moline No. 16-D, 24" rl., 6 BV-20 hds.
- Moline No. 17-D, 24" rl., 8 BV-14 hds.
- Moline No. 7-D Cylinder Borer, 30" rail, 4 CWL heads.

## GEAR CUTTERS

- No. 12 Barber-Colman hobber.
- No. 3 B. & S. spur gear cut., 36" cap.
- 50"x12" Gould & Eberhardt, spur, with rack cutting attachment.
- No. 6 Fellows gear shaper.

## GRINDERS

- No. 1 Cincinnati pl. cutter grinder.
- No. 1 1/2 Cincinnati univ. cutter gdr.
- 10"x72" Norton plain., cylindrical.
- 12"x48" Cincinnati pl. cylindrical.
- 12"x48" Cincinnati univ. cylindrical.
- 16"x48" Cincinnati pl. cylindrical.
- No. 6 Bryant internal.
- No. 20 Heald rotary surface.
- Pratt & Whitney vertical surface.

## GRINDERS—Continued

- No. 4 Gardner disc (3).
- 84"x24" Diamond face, motor drive.
- Type A, Production polishers, (2).

## LATHES

- 9"x18" Porter-Cable.
- 14"x 6" Rockford, c. r., quick chg.
- 16"x6" L. & S., 3-step, c. r., quick change, practically new.
- 16"x8" Bradford, 5-step, c.r., taper.
- 16"x8" Von Wyck, 5-step, c. r.
- 18"x8" S. & B., 3-step, comp. rest.
- 18"x13" Lehmann, qk.ch., 3-step, c.r.
- 18"x14" Rockford, c. r., qk. chg.
- 20"x8" L. & S., 5-step, quick ch., c.r.
- 22"x8" Bradford, qck. chg., c. r.
- 24"x12" Reed, 4-step, compound rest.
- 28"x14" LeBlond, 3-step, comp. rest.

## MILLING MACHINES

- No. 1 Cincinnati plain, cone.
- No. 1 1/2 Cincinnati plain, cone.
- No. 2 Cincinnati plain, cone.
- No. 2 1/2 Rockford universal, cone.
- No. 3 Cincinnati plain, high power.
- No. 3-H K. & T. vert., 42" table trav.
- No. 4 Becker-Brainerd vertical.
- No. 6 Becker-Brainerd vertical.
- Putnam, Lincoln type (3).

## PLANERS

- 24"x24"x 6' Cincinnati, 1 head.
- 24"x24"x 6' Whitcomb, 1 head.
- 66"x66"x17' Harrisburg, 2 heads.

## SCREW MCHS. & TURRET LATHES

- 1" Smith screw machine, plain head.
- 1 1/2" Acme screw mche., friction hd.
- No. 1 Warner & S. hollow hexagon.
- 3"x36" J. & L. flat turret, grd. hd.
- 21"x10" Gisholt, 3-jaw chuck.
- No. 53 National-Acme automatic.

## SHAPERS

- 14" Barker crank.
- 20" Milwaukee crank.
- 21" American b. g. crank.
- 28" American b. g. crank.

## SAWS

- Q. & C. cold saw.
- Klemm metal band saw.
- No. 5 Marvel hack saw.

*MARSHALL & HUSCHART MACHINERY CO.*

17 So. Jefferson St., Chicago, Ill.

# Used Machinery Bargains

## MILLING MACHINES.

No. 0 Rockford, power feed.  
No. 25 Becker, plain (3).  
No. 2-B Brown & Sharpe, plain.  
No. 2 B lvy. Brown & Sharpe, pl.  
No. 3 Cincinnati, plain (3).  
No. 3 Kempsmith, plain.

No. 3 H Le Blond, plain, vert. att.  
No. 3 Cincinnati high power vert.  
No. 5 B Becker, vertical.  
No. 6 Becker vertical.  
Nos. 2 & 3 Pratt & W. die sinkers.  
No. 6 Whitney hand (3).

## DRILLS.

No. 14 Avey b. b., 1, 2, 4 spindle.  
29" Hamilton and Aurora drills.  
36" Aurora drills. (3).  
36" Cincinnati, tapping attach.

5' Reed-Prentice plain radial.  
36" American sensitive radial.  
No. 2 Foote-Burt 4-spindle gang.

## LATHES.

14"x 8' Fay & Scott, taper attach.  
16"x 6' Reed-Prentice. sgl. pul. dr.  
18"x 7' Chard, d. b. g.  
19"x 9' Bell, d. b. g.  
20"x 8' Reed, with 220 v., d. c. mtr.  
20"x 8' Hamilton, d. b. g.

20"x 8' Lodge & Shipley, grd. hd., q. c.  
20"x 10' American, geared head, q. c.  
22"x 10' Davis, d. b. g., q. c.  
34"x 10' Putnam, heavy type.  
38"x 14' Fifield, heavy pattern.

## SHAPERS AND PLANERS.

16" Stockbridge shaper.  
24" Kelly back geared shaper.  
26"x 6' Pond planer.

30"x 8' Ohio planer, heavy pattern.  
36"x 36"x 15' Betts planer, 2 hds.

## GRINDERS.

6"x 32" Norton grinder.  
14"x 72" Norton grinder.  
16"x 48" Landis crank pin, self contained.  
12"x 32" Landis universal.

16"x 96" Landis plan.  
No. 2 Oesterlein tool & cutter.  
No. 2 Woods tool & cutter.  
No. 1 Cincinnati tool grinders (3).  
P. & W. vertical surface.

## SCREW MACHINES AND TURRET LATHES.

No. 00 B. & S. auto. screw machine, slotting attach., serial 6202.  
3-3/4" Cleveland model A, ser. No. 27360.  
2" Cleveland model A, ser. No. 26302.  
4" Cleveland model A. (2).  
No. 1 Garvin hand screw machine.  
No. 3 Superior hand screw mche.  
No. 4 Milholland hand screw mche.

16" Drees Fox lathe.  
18" Springfield and Am. Fox lathes.  
No. 3 Warner & Swasey Fox lathe.  
3x36 Jones & Lamson.  
21" Gisholt turret lathe.  
20x8 Fay & Scott univ. tur. lathe.  
No. 3 Pratt & Whitney turret lathe, 3" hole in spindle.

## PRESSES.

No. 754 Bliss, tie rod frame, geared, 6" stroke.  
No. 4 Walsh open back inclinable.  
No. 3 Stiles solid back.  
No. 95 Consolidated, solid back.

No. 24E Bliss double crank geared press, area bed 14"x 72".  
No. 31 Toledo, solid back.  
No. 84 Zeh & H. screw press, 75 ton, used 24 hours.

## BORING MILLS.

30" Bullard, single turret head.  
36" Niles two heads.

42" Bullard, motor drive, 2 heads.  
24" Binsse horiz. boring machine.

## TURRET LATHES.

24" and 36" Bullard vertical turret lathes, excellent condition.

## -SPECIAL BARGAINS-

36"x 18' Fifield Lathe and Taper.....	\$1000.
42"x 36"x 8' Cincinnati Planer, 1 head.....	800.
36"x 30"x 8' Cincinnati Planer, 2 heads, A. C. Motor....	800.
5' Bickford Full Universal Radial, A. C. Motor.....	800.

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# Classified Finding Index

## Air Guns

Powell Co., Wm., Cincinnati

## Arbors, Solid

Nicholson & Co., W. H., Wilkes-Barre, Pa.

## Auto-Gages For Dies

Daily Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

## Automatics

New Britain Machine Co., New Britain, Conn.

## Balancing Ways

Anderson Bros. Mfg. Co., Rockford, Ill.  
Bowsher Co., N. F., South Bend, Ind.

## Balls, Bearing and Burnishing

Abbott Ball Co., Hartford, Conn.

## Band Saw Machines, for Metal

Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago  
Porter-Cable Machine Co., Syracuse, N. Y.

## Barrels, Tumbling

Abbott Ball Co., Hartford, Conn.  
Scully-Jones & Co., 2012 W. 18th, Chicago

## Belt Shifters

Artisan Manufacturing Co., Cincinnati, O.

## Bench Legs, Steel

Angle Steel Stool Co., Plainwell, Mich.  
New Britain Mch. Co., New Britain, Conn.

## Bending Machines, Hand and Power

Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago  
Hendley & Whittemore Co., Beloit, Wis.  
Lewthwaite Mch. Co., T. H. 417 E. 31st., N. Y.  
Lourie Mfg. Co., Springfield, Ill.  
Pedrick Tool & Machine Co., Philadelphia

## Boring Bars

Pedrick Tool & Machine Co., Philadelphia

## Boring Bars, Cylinder

Pedrick Tool & Machine Co., Philadelphia

## Boring Machines, Horizontal

Avery Drilling Machine Co., Cincinnati  
Morris Machine Tool Co., Cincinnati, O.  
Pedrick Tool & Machine Co., Philadelphia  
Rockford Drilling Machine Co., Rockford, Ill.

## Burnishing Equipment, Ball

Abbott Ball Co., Elmwood, Conn.

## Bushings, Drill Jig

Ex-Cell-O Tool & Mfg. Co., Detroit, Mich.

## Cabinets, Tool

Angle Steel Stool Co., Plainwell, Mich.

## Casters for Trucks

Hamilton Center & Mfg. Co., Hamilton, Ohio

## Chains, Power Transmission

Whitney Mfg. Co., Hartford, Conn.

## Chucking Machines

New Britain Mch. Co., New Britain, Conn.

## Chucks, Collet

Hardinge Brothers, Inc., 1770 Bertou Ave., Chicago

## Chucks, Drill

Eastern Tube & Tool Co., Inc., 580 Johnson Ave., Brooklyn, N. Y.  
Jacobs Mfg. Co., Hartford, Conn.

Scully-Jones & Co., 2012 W. 18th, Chicago  
Titan Tool Co., Erie, Pa.  
Westcott Chuck Co., Oneida, N. Y.

## Chucks, Drill and Tap

Peter Bros. Mfg. Co., Algonquin, Ill.  
Scully-Jones & Co., 2012 W. 18th, Chicago

## Chucks, Keyway Cutting

Scully-Jones & Co., Ry. Exch. Bldg., Chicago

## Chucks, Lathe

Westcott Chuck Co., Oneida, N. Y.

## Chucks, Wrenchless

Thomas Elevator Co., 31 S. Hoyne Ave., Chicago

## Clamps, Die

Daily Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

## Clutches, Friction

Edgemont Machine Co., Dayton, O.

## Cold Saws

Burke Machine Tool Co., Conneaut, Ohio  
Peter Bros. Mfg. Co., Algonquin, Ill.

## Collets

Hardinge Brothers, Inc., 1770 Bertou Ave., Chicago

## Contract Work Wanted

Burke Machine Tool Co., Conneaut, O.

## Counterbores and Spot Racers

Giesler Co., J. C., Detroit, Mich.

## Cranes, Portable

Canton Foundry & Mch. Co., Canton, Ohio

## Crank Pin Turning Machine

Pedrick Tool & Machine Co., Philadelphia

## Crankshafts

Leard Co., Wm., New Brighton, Pa.

## Cutters, Keyseating

Davis Keyseater Co., Rochester, N. Y.  
Scully-Jones & Co., 2012 W. 18th, Chicago  
Whitney Mfg. Co., Hartford, Conn.

## Cutters, Milling

Genesee Mfg. Co., Rochester, N. Y.  
Whitney Mfg. Co., Hartford, Conn.

## Cutting-Off Machines

Peter Bros. Mfg. Co., Algonquin, Ill.

## Cylinder Boring Machines, Portable

Pedrick Tool & Machine Co., Philadelphia

## Dial Indicators

Federal Products Corp'n, Providence, R. I.  
Wallace Brothers, 160 N. Wells St., Chicago

## Die Sets

Daily Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

## Dies, Pipe Threading

Signal & Keeler Mch. Wks., Edwardsville, Ill.

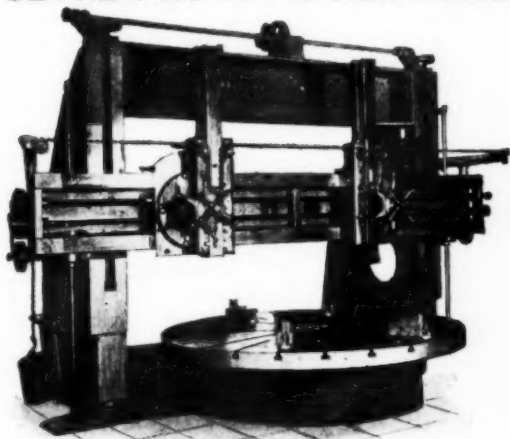
## Dies, Self-Opening Adjustable

Rickert-Shafer Co., Erie, Pa.

# 12 foot BETTS

## BORING MILL

92% NEW AT 40% OF NEW PRICE



Cone Drive, 10' Diam. Table, Geared Feeds, 84" Under Rail;  
4-18" Face Plate Jaws

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# Classified Finding Index

## Drill Racks

Peerless Machine Co., Racine, Wis.

## Drilling Machine Heads, Multiple

National Automatic Tool Co., Richmond, Ind.  
United States Drill Head Co., Cincinnati

## Drilling Machines, Automatic Sensitive

Kingsbury Mfg. Co., Keene, N. H.

## Drilling Machines, Bench

Avey Drilling Machine Co., Cincinnati  
Burke Machine Tool Co., Conneaut, Ohio  
Kingsbury Mfg. Co., Keene, N. H.  
Rockford Drilling Machine Co., Rockford, Ill.  
Sigourney Tool Co., Hartford, Conn.  
Taylor & Fenn Co., Hartford, Conn.

## Drilling Machines, Horizontal

Kingsbury Mfg. Co., Keene, N. H.  
Morris Machine Tool Co., Cincinnati, O.  
Rockford Drilling Machine Co., Rockford, Ill.

## Drilling Machines, Multiple Spindle

Avey Drilling Machine Co., Cincinnati  
Kingsbury Mfg. Co., Keene, N. H.  
National Automatic Tool Co., Richmond, Ind.  
Rockford Drilling Machine Co., Rockford, Ill.  
Sigourney Tool Co., Hartford, Conn.  
Taylor & Fenn Co., Hartford, Conn.

## Drilling Machines, Portable Electric

Independent Pneumatic Tool Co., 600 W.  
Jackson Blvd., Chicago  
Stow Flexible Shaft Co., Philadelphia, Pa.  
Strand Co., N. A., 5001 N. Lincoln St., Chgo  
Wisconsin Electric Co., Racine, Wis.

## Drilling Machines, Post

Mueller Machine Tool Co., Cincinnati

## Drilling Machines, Radial

Morris Machine Tool Co., Cincinnati, O.  
Mueller Machine Tool Co., Cincinnati  
Taylor & Fenn Co., Hartford, Conn.

## Drilling Machines, Sensitive

Avey Drilling Machine Co., Cincinnati  
Burke Machine Tool Co., Conneaut, Ohio  
Kingsbury Mfg. Co., Keene, N. H.  
Leland Gifford Co., Worcester, Mass.  
Sigourney Tool Co., Hartford, Conn.  
Taylor & Fenn Co., Hartford, Conn.  
Wisconsin Electric Co., Racine, Wis.

## Drilling Machines, Vertical

Avey Drilling Machine Co., Cincinnati  
Kingsbury Mfg. Co., Keene, N. H.  
Leland Gifford Co., Worcester, Mass.  
Rockford Drilling Machine Co., Rockford, Ill.  
Sigourney Tool Co., Hartford, Conn.  
Taylor & Fenn Co., Hartford, Conn.

## Drills, Twist

Cleveland Twist Drill Co., Cleveland, O.

## Dust Handling Equipment

Knickerbocker Co., Jackson, Mich.

## Emery Wheel Dressers and Cutters

Desmond-Stephan Mfg. Co., Urbana, O.  
Precision Truing Machine & Tool Co., Cincinnati, O.  
Taylor & Fenn Co., Hartford, Conn.  
Western Tool & Mfg. Co., Springfield, O.

## Feeders, Oil and Soda Water

New Britain Machine Co., New Britain, Conn.

## Filing Room Equipment

Wardwell Mfg. Co., Cleveland, O.

## Flexible Shafts

Strand Co., N. A., 5001 N. Lincoln St., Chgo

## Forgings, Hollow Bored

American Hollow Boring Co., Erie, Pa.

## Forgings, Upset

American Forge Co., 2631 S. Hoyne Avenue,  
Chicago

## Furniture, Machine Shop

New Britain Machine Co., New Britain, Conn.  
Western Tool & Mfg. Co., Springfield, O.

## Gauges, Piston and Piston Ring

Federal Products Corp'n, Providence, R. I.

## Gauges, Thread

Federal Products Corp'n, Providence, R. I.

## Gears

Boston Gear Works Sales Company, Norfolk  
Downs, Mass.

## Grinding Machines, Belt

Gallmeyer & Livingston Co., Grand Rapids,  
Mich.  
Peerless Surfacing Machine Co., Troy, N. Y.

## Grinding Machines, Bench

Bodine Electric Co., 2256 W. Ohio St., Chgo.  
Gallmeyer & Livingston Co., Grand Rapids,  
Mich.

## Grinding Machines, Cutter, Reamer and Tool

Gallmeyer & Livingston Co., Grand Rapids,  
Mich.  
Jarecki Mch. & T. Co., Grand Rapids, Mich.  
LeBlond Mch. Tool Co., R. K., Cincinnati, O.  
Thompson Grinder Co., Springfield, Ohio  
Wilmarth & Norman Co., Grand Rapids, Mich.

## Grinding Machines, Cylinder

Whitney & Son, Haxter D., Winchendon, Mass.

## Grinding Machines, Cylindrical

Jarecki Mch. & T. Co., Grand Rapids, Mich.  
Thompson Grinder Co., Springfield, Ohio

## Grinding Machines, Die

Gallmeyer & Livingston Co., Grand Rapids,  
Mich.  
Jarecki Mch. & T. Co., Grand Rapids, Mich.  
Thompson Grinder Co., Springfield, Ohio  
Wilmarth & Norman Co., Grand Rapids, Mich.

## Grinding Machines, Disc

Gallmeyer & Livingston Co., Grand Rapids,  
Mich.  
Porter Cable Machine Co., Syracuse, N. Y.

## Grinding Machines, Drill

Gallmeyer & Livingston Co., Grand Rapids,  
Mich.  
La Salle Tool Co., La Salle, Ill.  
Wilmarth & Norman Co., Grand Rapids, Mich.

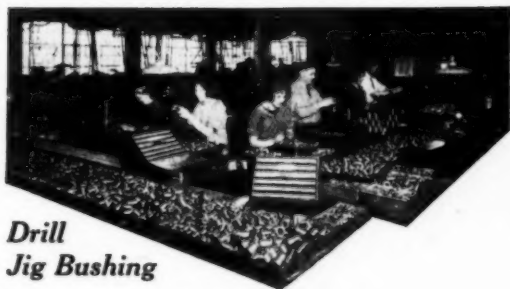
## Grinding Machines, Face

Taylor & Fenn Co., Hartford, Conn.

## Grinding Machines, Internal

Taylor & Fenn Co., Hartford, Conn.  
Thompson Grinder Co., Springfield, Ohio  
Whitney & Son, Haxter D., Winchendon, Mass.  
Wilmarth & Norman Co., Grand Rapids, Mich.





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High Speed  
Grinding Spindles



High Speed  
Ball Bearings

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## Classified Finding Index

**Grinding Machines, Portable Electric**  
Bedine Electric Co., 2256 W. Ohio St., Chgo.  
Independent Pneumatic Tool Co., 600 W.  
Jackson Blvd., Chicago  
Porter-Cable Machine Co., Syracuse, N. Y.  
Service Tool, Die & Mfg. Co., 2256 Walnut  
Street, Chicago.  
Stow Flexible Shaft Co., Philadelphia, Pa.  
Strand Co., N. A., 5001 N. Lincoln St., Chgo  
Wisconsin Electric Co., Racine, Wis.

**Grinding Machines, Snagging**  
Gallmeyer & Livingston Co., Grand Rapids,  
Mich.  
Jarecki Mch. & T. Co., Grand Rapids, Mich.

**Grinding Machines, Surface**  
Gallmeyer & Livingston Co., Grand Rapids,  
Mich.  
La Salle Tool Co., La Salle, Ill.  
Thompson Grinder Co., Springfield, Ohio  
Wilmarth & Morman Co., Grand Rapids, Mich.

**Grinding Machines, Tap**  
Gallmeyer & Livingston Co., Grand Rapids,  
Mich.

**Grinding Machines, Tool**  
Taylor & Fenn Co., Hartford, Conn.

**Grinding Machines, Universal**  
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**Hack Saw Machines**  
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Racine Tool & Machine Co., Racine, Wis.

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Jackson Blvd., Chicago

**Hammers, Riveting**  
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Concord Ave., New York

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Thomas Elevator Co., 31 S. Hoyne Ave.,  
Chicago

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Davis Keyseater Co., Rochester, N. Y.  
National Machine Tool Co., Cincinnati  
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Monarch Machine Tool Co., Sidney, O.

**Lathes, Engine**  
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**Pins, Leader And Dowel**  
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 Mollitor Mch. Co., Chas., 118 S. Clinton St., Chicago  
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### Spindles, Grinding

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### Spindles, Air Driven, High Speed

Ex-Cell-O Tool & Mfg. Co., Detroit, Mich.

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Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

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 Whitney & Son, Baxter D., Winchendon, Mass.



## —speaking of Dust Collectors

*Knickerbocker asks:—*

WHEN a number of the biggest plants in the country use from 15 to 35 of a certain kind of Dust Collector;

WHEN users write in and say that this Collector is saving nearly half the power formerly used;

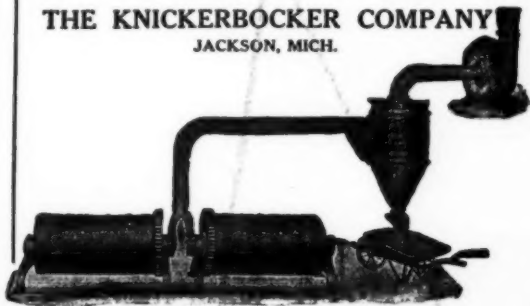
WHEN some firms have had no repairs whatever on this Collector after years of steady use—

DOESN'T it begin to look as though there was something *unusually good* about that Collector?

Well, the "Rarefied" Dust Collector is exceptionally efficient and economical. It serves better and longer.

Our Booklet tells about this superior Collector in an interesting way. Let us mail you a copy.

**THE KNICKERBOCKER COMPANY**  
JACKSON, MICH.



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# I Pay 500% Annual Dividends

## You Can Prove It Yourself

*Built Since 1887*  
*Better now than ever*



I am the

**TOWSLEY  
TRUCK—**

I am made in all  
styles and sizes  
to meet every  
requirement.

**TAKE A PENCIL** and do a little simple figuring. Make your own estimate of how much labor is saved each time a truck is used. Multiply this by the approximate number of times it is employed per day, and this, again, by the labor cost per hour, and you can easily estimate the saving for a month or a year.

**EFFICIENCY ENGINEERS** have figured this out with great care, and they say that the average truck pays for itself every two or three months, *earning about 500% a year.*

**I, the Towsley Truck,**

—am such a good truck, because my makers believe that anything which earns 500% a year deserves to be well made. They believe it is economy to build me the best they know how—not to sell at a price, but to last the longest, to give the best service, and to earn the largest dividends. And that is why I have been adopted in so many plants as their standard truck equipment.

*Write to my makers. Tell them your requirements.  
Let them help you make money. They are the—*

**John T. Towsley Mfg. Co.**  
1036 Woodrow St., Cincinnati, Ohio

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## **Our Silver Anniversary**

On May 17th, 1925, we celebrate our twenty-fifth birthday, and begin our second quarter of a century.

We thank our many, many friends for their patronage, and assure them that we shall continue our policy of building only the best tools that can be produced by a thorough organization and the skill that comes only from long experience.

In the Improved New Yankee Drill Grinders, the W. & M. Universal Grinders and the W. & M. Surface Grinders we have a line of machines of which we are justly proud. Each of them is a leader, because it deserves to be.

During the next quarter century we expect to increase by many fold the number of our friends and patrons; and when our Golden Anniversary rolls around 25 years from now, we hope that your name will long have been among those who will wish us well because we shall have served you well.

Our latch-string is always out to those who want to improve their grinding methods.

### **Wilmarth & Morman Co.**

*Manufacturers of Precision Grinding Machines since 1900*

**1185 Monroe Ave., N. W., Grand Rapids, Mich.**

# They Nest—



## New Britain Tote Boxes

Stiffness—Lightness—Durability and close nesting are features of superiority. One piece construction except handle. Their design positively prevents sticking when nested empty. Corners where strain is the greatest are of quadruple thickness.

*Send for Bulletin No. 1224*

**The New Britain Machine Company**

**"Shop Furniture  
Originators"**



**New Britain,  
Conn. U.S.A.**

